

WINONA STATE UNIVERSITY  
ANTHOLOGY OF K-12 ACTION RESEARCH

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WILL INCLUDING THE HIGH SCHOOL CONTENT AREA TEACHERS IN THE  
LIBRARY COLLECTION UPDATING PROCESS INCREASE CIRCULATION  
OF MATERIALS?

by

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A capstone submitted to the faculty of the Graduate School of  
Winona State University in partial fulfillment of the requirement for the degree of

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This capstone entitled:

Will including the high school content area teachers in the library collection updating  
process increase circulation of materials?

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The signatories have examined the final copy of the capstone, and we find that both  
the content and the form meet acceptable presentation standards of scholarly work in  
the above-mentioned discipline.

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Foster, Erin Rebecca (M.S., Education)

Will including the high school content area teachers in the library collection updating process increase circulation of materials?

## **Capstone directed by Dr. Thomas Sherman**

### **ABSTRACT**

A self-study was conducted to find the weaknesses and strengths in the library program through focus groups, online surveys and a collection analysis. The age of the collection was the most glaring weakness of the program and the need was very obvious. In 2001 I had Follett Library Resources conduct a free collection analysis and the average age of publication in the library was 1979, 24 years old.

Collaboration took place between the teachers and me. I started with a collaboration survey to see what the curriculum needs were; in addition, I asked for input from teachers after they brought their classes to the library. From these results, I began updating the collection. In 2003 I conducted another collection analysis and found the age of the collection had improved to 1986. There was a noticeable increase in library usage and circulation.

## I. INTRODUCTION

A high school language arts teacher signs up to use the library for her students to research various topics for their persuasive speeches. After some collaboration, the teacher and the library media and technology center director (LMC) determine that the students will need six different resources for their speeches: three book sources and three online resources. Following the introduction, some students ask for additional help immediately, some wander the stacks looking for something that may pertain to their topics, some utilize the card catalog, but most go straight to the Internet.

This scenario of students having difficulty finding the most relevant or current information they need in books is common in many school libraries including Holmen High School. “Across North America, it is estimated that the percentage of schools with the requisite numbers of books in their library collections is well below acceptable standards” (Curtis, 2000). Several questions arise when media specialists analyze their own collections. Are there enough good resources that provide information to accommodate the needs of the curriculum and/or the needs of the learners? Is the age of the collection adequate for the resources provided? Is the collection balanced with technology-based and print-based information resources? Are the monies being spent to develop both print and non-print resources? These are questions that have guided the focus of my work for the last three years.

Upon entering the Holmen High School Library after acquiring the position of library media director, despite the surface, the collection did not seem to meet the

needs of the school. When students were instructed to use the various resources to find materials relevant to their topics, they had difficulty due to large gaps in the collection. As a result of inconsistency and different styles of each LMC director, the library collection had been neglected and therefore was in desperate need of collection management. The process was a daunting and timely project.

Since the collection had only been added to and little had been discarded, many books contained dated information such as books about geographic locations that no longer existed and “current issues” books dated as far back as the 1960s. Due to the lack of care, the librarians were providing misinformation to the students. In an article titled “No Information is Better than Misinformation,” by Pearson and Turner, they suggest that one of the most important and constructive tasks involved in maintaining and developing a collection is weeding and discarding those materials that have lost their value to the collection. By doing so, librarians allow room for growth and can provide excellent sources for students and teachers. Pearson and Turner also emphasize that if weeding is neglected, “the library will become a bibliographic morgue of limited value and students and faculty will seldom use it and when they do, they will find it difficult to locate desired materials.” If patrons run into this problem, they will turn away and go elsewhere for information. Not only was our information at Holmen High School dated, but also the books looked old and unappealing to the students.

The collection was not only old, but also not up-to-date with the new curriculum needs. The students lacked access to “good quality” and “up-to-date” resources. Without a good collection to support the curriculum needs, the students

and teachers turned to other resources that may not have been as useful or appropriate as a well-written book with updated information. Lack of quality resources in the library has made the learning community turn to other means of finding information.

Teachers have compensated for the lack of materials by using their classrooms and department funds to purchase resources for their classrooms. Often, instead of using print resources in the library, they have chosen to use the Internet in the computer labs. Without the resources, students are lacking the skills necessary to become critical thinkers and problem solvers. In the “information age,” educators must provide sources to obtain the best information possible. With the changing curriculum needs of our school, the ever changing society of information and technology, and the new initiatives brought about by No Child Left Behind (NCLB), our best interest is to update the library media collection to address the needs of student achievement and information literacy.

#### A. Need for the Study

The need for the study arose when the district LMC staff began rewriting our curriculum, which had not been revised in five years. With the new state and national standards implemented, in addition to NCLB, we had new guidelines to meet. In response to the wide and varied needs of the school, progressive attempts have been made to evaluate the needs of the teachers and the students.

As part of rewriting our curriculum and improving our services to the community, the School District of Holmen library committee conducted a self-study that was completed in May 2003. As a result of the study, the committee identified problem areas. One of the problem areas for the district was the collection. Although

it did not identify the high school collection specifically as the weakness, the results of my collection analysis identified that the average age of my collection was 1979, 24 years old. This was neither impressive nor healthy when as educators we are trying to teach students to be life-long learners and successful contributors to society. In doing so, we must provide them with the means to accomplish such a task. The library should be the center of learning for every educational institution, and without the proper resources, we cannot provide a quality-learning environment. In addition to the glaring collection needs, we also needed to meet the new technology and library combined guidelines set forth by the state of Wisconsin. NCLB initiatives also played a role in the change of *all* curriculums. With curriculums changing, the collection lacked resources for new initiatives.

#### B. Statement of the Problem

The problem is that the Holmen High School library collection is so outdated that we are providing biased and out-dated information to the students. A need exists to take the next step in the process and evaluate the materials that we have, weed out the old, and purchase new. The problem also lies in the fact that because the collection of library materials is old and out-of-date, students and teachers are using other means of accessing information and are not checking out the existing materials. Students who are being deprived the means of information that they need to be critical thinkers and problem solvers may be missing critical learning opportunities.

#### C. Purpose of the Study

The purpose of the study is to answer the question whether including the high school content area teachers in the library collection updating process will increase the circulation of materials.

#### D. Statement of the Hypothesis

By including high school teachers in the updating process of the library collection, the circulation of materials will increase.

### E. Definition of Terms

- **Analyze:** To determine the components of or separate into component parts; to divide into parts and determine the relation of each part to the other parts, or the whole.
- **Collaborative planning:** In preparation for a class visit to the library media center, the library media specialist and the teacher(s) involved plan together.
- **Collection:** All library materials including books, magazines, and audiovisual materials.
- **Collection analysis:** A statistical examination of a group of many materials (in the case of a library, books, videos, audio)
- **Collection development:** The process of building a library media center collection of resources in all formats, including, but not limited to, book, electronic database, CD-ROM, and video to support all areas of curriculum, individual research and a broad knowledge of the world's literature. In developing a collection, the library media specialist must take into consideration student and parent needs as well as the needs of the various professionals in the school community.
- **Collection management:** A term used to refer specifically to the application of quantitative techniques in collection development (Kennedy, 1998).
- **CREW:** stands for "Continuous Review, Evaluation, and Weeding"
- **Information Literacy:** Strategies and life skills that apply to the process of
- **LMC Director:** Library media center director is the person who is in charge of the library; its programming and all the materials and resources.



- Library materials: All the components that constitute the collection.
- Online Catalog: An electronic catalog and circulation system that replaces the traditional card catalog for the location of resources.
- Selection Policy: A comprehensive district policy that provides the philosophy and general guidelines for the selection of all resources. The policy is the basis for collection development and challenged materials are review in light of the district's policy.
- Weeding: The process of pulling resources from the library media program collection which are no longer relevant to the interests and learning needs of the school's students, teachers, staff, and community.

#### F. Limitation and Delimitations

1. Only one school in Western Wisconsin is being analyzed and only being compared to it.
2. The budgets at the national, state and local levels have experienced reductions, therefore affecting education. Without an adequate budget, it is difficult to replace the needed materials.
3. Since I have only been working in the district for three years, I have a limited relationship with teachers. I was the third librarian in 5 years and do not know what the situation was in the past.
4. Changes of materials in the collection due to change in curriculum.
5. There may be missing or inaccurate information when the system was switched from a manual to an automated system.

6. There is a lack of knowledge of teacher motivation as to why they have students use the library and what resources they want them to use.
7. There is a varied audience and their knowledge of library skills is at different levels.
8. Collaboration questionnaires were distributed to all the teachers in the high school, and they were asked, but not required to, complete all the information on the questionnaire.

## II. REVIEW OF RELATED LITERATURE

Anyone who has ventured into a school library media center recently knows that the information age has wrought powerful change on the character of what formerly was known as the school library (NBPTS library media standards, 2001). Library media centers now offer access to a multitude of information resources including print, online and other forms of multimedia. As a result of the changing and increasing technology demands, the role of the library media specialist is ever changing. Researchers in this area have investigated the effects library collections have on academic achievement of students. With the increasing demands on student achievement and teacher accountability, educators must emphasize the importance of providing the tools and resources for academic achievement.

Student achievement is measured in many ways, and many components impact achievement. One way to provide means of achievement is through a well-maintained and involved library media program and collection. The emphasis is no longer solely on providing students with the skills to excel academically but also to be contributing adults in information-driven society. Professionals refer to these skills as “twenty-first century skills.” In helping our students become equipped for the twenty-first century, we must encourage proficiency in these skills to help them become literate.

According to enGauge ([www.ncrel.org/engage](http://www.ncrel.org/engage)), a web-based framework for high-performing school’s sponsored by the North Central Regional Educational Laboratory (NCREL), a nonprofit research organization and the Metiri Group, and educational consulting firm, 21<sup>st</sup> Century skills will enable kids to become creative

problem solvers who will flourish in the information-oriented workplace. Cheryl Lemke, Metiri's president and CEO states, "There's no doubt that these competencies are essential: about 40% of all jobs already require these skills and that figure will continue to rise as jobs in manufacturing decline." The skills are essential in order to accomplish all that NCLB, President Bush's education plan, is requiring of educators and students. Lemke also states, "We'll never get to the place where No Child Left Behind wants us to go without all these 21<sup>st</sup> century skills." Minkel (2003) goes on to define and describe the 21<sup>st</sup> century skills:

- "Basic literacy (reading, writing, listening, and speaking)
- Scientific literacy (knowledge of science, scientific thinking, and mathematics)
- Technological literacy (the ability to understand and work with computers, networks, and software)
- Visual literacy (the ability to decipher, interpret, and express ideas using images, charts, graphs, and video)
- Information literacy (the ability to find, evaluate, and use information effectively)
- Cultural literacy (knowledge and appreciation of the diversity of peoples and cultures)
- Global awareness (understanding and recognition of the interrelations of nations, corporations, and politics around the world)"

As information and technology increasingly shape our society, the skills adults need to function successfully have gone beyond reading. In 1998, the Workforce Investment Act defined literacy as "...an individual's ability to read, write, speak in English, compute, and solve problems at levels of proficiency necessary to function on the job, in the family of the individual, and in society" (National Institute for Literacy). Approximately 44 million adults cannot read well enough to complete an application, read a food label, or read a story to a child. These individuals lack the literacy skills needed to find and keep decent jobs, support their children's education,

and participate actively in civic life (National Adult Literacy Survey, 1992; 21st Century literacy @ your library, 2001).

The statistics are startling and directly reflect our education system and its lack of support for retention and lack of monies for additional help and resources for our struggling students. What we can learn is how to redirect our focus to preparing our students for a society that relies heavily on the 21<sup>st</sup> century literacy skills. No literacy is more important than another, yet I would like to focus my attention on information literacy as we take a look at the effects of libraries on academic achievement.

According to the American Library Association, “To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information” (Jenson, 2004). Today’s students are highly reliant on information, so as educators we must work together to provide access to the best information we can.

We accommodate the changes in technology and the ease of accessing information, we see curriculums being revised, focuses changing, and professional committees forming to evaluate and brainstorm ways to improve what we do to drive academic achievement. Studies conducted attribute a quality library program to student academic achievement. In a study conducted by Keith Curry Lance and others, they found that school library media centers do in fact impact academic achievement. The study found among other components that “the size of the library in terms of its staff and its collection is a direct predictor of reading scores” (Lance,

2004). His final compiled results showed that when library media predictors are maximized, reading scores tend to run 10 to 18% higher. According to (Impact of School Libraries and Library Media Specialists on Student Academic Achievement, 2004) compiled by Scholastic Library Publishing Company, various other research since 1990, shows positive relationships between school libraries and student achievement.

The research studies show that school libraries can have a positive impact on student achievement--whether such achievement is measured in terms of reading scores, literacy, or learning more generally. In a study conducted by Keith Curry Lance in Colorado, he compiled the following results: the size of the school library staff and collection explained 21% of variation in seventh grade Iowa Tests of Basic Skills reading scores, while controlling socio-economic condition. Elementary school students with the most collaborative teacher-librarians scored 21% higher on Colorado Student Assessment Program (CSAP) reading than students with the least collaborative teacher librarians. In another study conducted by Baxter and Smalley in Minnesota, they found similar results: In Minnesota schools with above-average student scores on the grade 3, 5, and 8 reading tests, 66.8% were schools where the library media specialist worked full-time. Student reading achievement in elementary and secondary schools is related to increases in school library program spending, and twice as many schools with above average scores had full-time library media specialists (Impact of School Libraries and Library Media Specialists on Student Academic Achievement, 2004). These research based achievements and many others are linked to some aspect of a strong, well-balanced library program.

Lance (2004) suggests that a strong library program is one that encompasses the following components: adequately staffed, stocked and funded; has staff who are actively involved as leaders in their school's teaching and learning enterprise; whose staff has collegial, collaborative relationships with classroom teachers; and one that embrace networked information technology. Lance, among many other library program researchers, boldly state, "If school decision makers want to be sure that they leave no child behind, the best insurance is a strong school library program" (Lance, 2004).

In the article titled "Leave No Library Collection Behind," Yoke states the importance and the correlation to NCLB and a good library program that supports the needs of the students and provides resources for student achievement. One of the goals of NCLB is to have all students proficient in reading and mathematics by 2013-2014. Studies have been conducted that prove the positive correlation between student success and fluid collections. Results of studies can be used as a solid justification for "school libraries to provide students with a good-sized, up-to-date library collection" (Yoke, 2004).

A key component to having a strong library media program is having a quality collection. "Collections are fluid. They change by growing, by being used up, by being stolen from and by being weeded" (Loertscher, 1996). The collection plays an important role in ensuring that the media program is integrated with the overall school program and in providing access to information within and outside the school (Van Orden, 1995). A library collection should be responsive to the users'

needs. The process of developing a supportive collection takes care and dedication. According to Doiron (2002), “a collection is developed to meet the curriculum outcomes of the school and to support literacy achievement and lifelong learning goals. This means that collection development serves the instructional goals of the school library program and the classroom teachers’ curriculum. In summary, the school library collection:

- Is a physical entity; it is made up of a variety of learning resources and links to resources.
- Includes various formats (traditional and electronic) from books to websites.
- Serves school goals; supports curriculum needs and reflects student interests.
- Reflects the values and attitudes of the local (and provincial) communities towards education.
- Provides access to human and materials resources in local/global community.
- Is centrally managed and maintained by a qualified teacher-librarian and library technician.

Yoke (2004) suggests that professionals in school libraries learn the curriculum in order to align the resources with the needs of the students and teachers to help them be successful in the classroom. This can be accomplished by collaboration with teachers, administrators, and others to prepare students for future success.



According to Russell (2000), since the early 1980's, library literature has examined progress toward establishing successful collaborative relationships between classroom teachers and library media specialist. The collaboration process between teachers and library media specialists provide more "authentic" assignments with a higher degree of meaning and significance. The results of a study conducted in Colorado offer most recent support for library media specialists and teachers working together collaboratively. The study concludes that test scores increase as school librarians spend more time collaborating with and providing training to teachers, providing curricula, and managing technology for the school. Hatcher (2001) suggests that the best action for school librarians to take in the case of curriculum reform is to review the school's curriculum and speak with teachers, and periodically consult with the department chairpersons and teachers to find out what is happening with new standards and curriculum. Collaboration and communication enable librarians to stay on track with what is needed and takes out the guesswork.

Three roles of the media specialist as outlined in *Information Power* (1995) remain the same: teacher, information specialist, and instructional consultant. Despite advances in technology and the availability of information, today's library media specialists resemble the librarians of the past in at least one respect: they work to instill in their students a love of reading and a love for discovery. They teach students that reading is essential to learning and to success in life and that it is a fun and worthwhile activity in and of itself (NBPTS Library Media Standards, 2001). Reading is a lifelong activity that can be enjoyed throughout our lives. Through collection analysis and collaboration, a collection that supports the curriculum and

interests will be accomplished. “The single reason for building a library media collection is to support the curriculum of the school. Library collections are ‘living’ entities. This means that they need constant care and feeding if they are to provide what students and teachers need” (Loertscher, 1996). When resources are purchased without curriculum or personal interests of your student body in mind, the resources do not get used. Loertscher (1996), states the importance of having a high quality collection that is pertinent to the user needs.

“The problem is, however, that static library media collections die a slow, silent death. No student is harmed physically when a needed book or database is not available, but mind may be stunted; a concept may go unlearned; a literacy taste impaired; a career undiscovered. The tragedy of mediocre library media collections is as great as any major accident that could have been prevented.”

It is the vision of the School District of Holmen that the community of students, staff and citizens will become lifelong learners through the use of information and technology resources as learning tools. Our school district will provide the necessary tools and resources to be effective in developing 21<sup>st</sup> century skills. As a library department, we strive to uphold the mission of the school district. Our library mission states:

The mission of the library media department is to:

- improve student achievement by the integration of Wisconsin’s Model Academic Standards for Information and Technology Literacy into the curriculum

- prepare students with 21<sup>st</sup> century skills to address real world problems
- emphasize how students and teachers access and use information and technology effectively
- design units which include classroom and information/technology staff collaboration
- provide anytime, anywhere access to a range of high-quality information and technology resources for all students and staff
- foster a positive and productive attitude toward reading and learning while encouraging a sense of personal enjoyment and ownership

It is my intent in researching the Holmen High School library collection and in collaborating with teachers that newly purchased materials serves a purpose and will be of value to our students and staff, thus increasing the circulation of print and visual resources.

### **III. METHODS AND PROCEDURES**

#### ***Background***

**Beginning in the summer of 2000, and ending June 2003, the Holmen School District Library Media Specialists, myself included, began the process of a self-study of our current existing library program. We went through the process of surveying district students and staff, conducting focus groups, conducting collection analyses of each school collection, and in collaboration and conjunction with Wisconsin Instructional Services, we aligned the Information & Technology Standards with the curriculum.**

**In order to begin the process, we hired two LMC Directors from New Berlin School District whose jobs were to come and evaluate our program. Their process included looking at the facilities and conducting focus groups with students and staff. They compiled their results and prepared recommendations for continuous improvement of the School District Media Program. The LMC directors**

**prepared surveys to administer to students, staff, parents  
and community members to gain insight on our existing  
program.**

During this time, we also had a representative attend the enGauge training. The enGauge framework identifies Six Essential Conditions critical to effective uses of technology for student learning. The information obtained at the training was used in rewriting the curriculum combining Information and Technology Literacy.

The self-study was a success as it helped identify the strengths and weaknesses of our overall library media programs, with collection/technology being one of the critical areas identified as a weakness. I had already identified that the high school collection was outdated when I began working at the high school. In September of 2001, I contacted Follett Library Resources to conduct a collection analysis. I found that the average copyright date of my collection was 1979, 24 years old. I was not surprised at the results but overwhelmed with the process that lie ahead.

*Collection Development*

The need was obvious; the collection needed an overhaul. The problem was, there was not enough money to tackle an entire collection at once.

“In the school library, collection development means serving the curriculum.

The curriculum is the skeleton or frame upon which we build the collection.

Therefore, it is essential that we have a thorough knowledge of the school’s

instructional mandate as well as knowledge about the teachers and the students” (Daigneault, 1990).

Keeping curriculum in mind and knowing this would be a huge project, some criteria needed to be set. The components that need to be taken into consideration when developing a collection are: alignment with the curriculum, age appropriateness, learning styles, teaching styles, and emotional and social development of the student population. As I reviewed the collection analysis, I acknowledged all of the recommendations by the professionals and began to weed our collection.

### Weeding

I based my weeding and collection development plan on the following three criteria: age of materials, teacher and student needs and new curriculum initiatives. The most important component before discarding anything from the collection was to review and understand the selection policy that our school district had in place. After I read and understood the guidelines, I started making contacts with people who had knowledge and resources to help make the weeding process easier. I found that there were numerous weeding guidelines available, and I looked at several. I chose to use the CREW method “Continuous Review, Evaluation, Weeding” (Boon, 1995) for weeding my collection and followed their guidelines for the recommended shelf life for each Dewey decimal section. I used this purely as a guideline and made adaptations, since our funds did not allow for an entirely new library collection. I was mainly concentrating on curriculum needs. During the weeding process, not only were books discarded, but also many books were refurbished. Many books in the collection still had good information but also had ugly, dirty covers and no longer

looked appealing to our patrons. After my assistants recovered and relabeled the books, they looked like new. After conducting a major weeding project of nearly two thousand items, I had a collection analysis compiled again so I could determine deficits in the collection and begin the process of collaboration and ordering.

### *Collaboration*

After studying the results, I presented the information at a staff development day and distributed a collaboration questionnaire to all the staff. (See Appendix A) The survey was used to gauge the needs of the curriculum according to what the teachers were teaching and projects they assigned. They were encouraged but not required to, fill it out. Another method of collaboration that I used in my research was to have the teachers complete an LMC follow-up. (See Appendix B) This allowed for them to reflect on their visits to the LMC and what resources were available to their students and what we were lacking. Throughout the year, and as surveys were returned and suggestions made, I continuously updated library resources.

### A. Research Design

An initial collection analysis was conducted and reviewed to find outdated materials and gaping holes in the library collection. Weeding of old materials, collaboration with teachers, and collection development took place to improve the library collection according to the needs of the school. Finally, the results of the 2001-2002-collection analysis were compared to the 2003-2004-collection analysis to see the increase in the average copyright age of the collection. The study also looked at the correlation to the increase in the copyright and increase in circulation.

### B. Selection of Subjects

I chose to survey the people who make the library functional: the students and teachers. The teachers know the content in their curriculum best and therefore are the best subjects for the study aside from the collection.

### C. Instrumentation

The instruments used for the study were a self-study with focus groups, an electronic survey, collection analysis, collaboration survey, and the statistical data from the Winnebago Spectrum automated library system. Questions were asked of students regarding whether or not there were enough materials with information for their assigned projects, whether or not their teachers required library resources for their assignments, and whether or not they could find information at their reading ability levels. Questions were asked of teachers regarding adequate resources for their students whether or not they use the library for assignments and projects, what topics are assigned or chosen by the students for projects and what other resources they thought would be beneficial to have in order to accommodate their needs and those of their students.

### D. Validity Measures

The results from the collection analysis are reliable according to the statistical information from my electronic card catalog. However, some of the information in the card catalog may be inaccurate if cataloging was done differently. Certain books in the collection could belong to various Dewey sections and were categorized according to the librarian's preference. The circulation statistics are reliable according to the computer generated circulation log. Those numbers did not include



manual checkout of materials such as reference books that cannot be checked calculated on the catalog. Also, there are books that are used in the LMC but not checked out. These books can be scanned for in library usage and should be included in the results. The in library usage is not calculated in the final results. The collaboration results were reliable because all the content areas that teachers requested were added to. The other sections were added to according to the results from the collection analysis results. In addition, there have been some assumptions made.

## **E. Field Procedures**

The self-study helped to identify the most glaring weakness of the library collection: its age. The average copyright date of a material in the library was 1979, according to the first collection analysis conducted in 2001. This outcome alone motivated me to research the components of a good collection and implement a collection development process that would benefit the LMC at Holmen High School.

## **F. Questionnaires Returned**

All teachers were encouraged but not required to take the collaboration survey. Of 68 teachers, 39 returned the collaboration surveys or sat down with me and answered the questions. The total participation was 57% of the teachers who participated in the collaboration process.

## **G. Conclusion**

A library collection encompasses many different resources. If they are not up to date, we are not doing our job to prepare the students with the life skills that they

need to contribute to society in an information based world. The components that need to be taken into consideration when developing a collection include alignment with the curriculum, age appropriateness, learning styles, teaching styles, and emotional and social development of the population with whom you are working. I based my weeding and collection development plan on the following three criteria: age of materials, teacher and student needs and new curriculum initiatives. With a 57% participation in the collaboration process, the process went well; we increased the average copyright date in our library collection and improved the circulation by both students and teachers.

## **IV. RESULTS AND DISCUSSION**

### **A. Introduction**

This study was designed to gather data about the copyright age of the materials in the library collection including books and audiovisual. With the statistics from the collection analysis conducted, it was determined that a plan including the content area teachers was necessary to increase the age of the collection. It was necessary in order to increase circulation and provide good, up-to-date information to the patrons. With an increase of materials with a reasonable copyright age, it was determined that teachers and students used the materials more. The following tables and charts show the testing results.

## B. Statistical Programs and Procedures

Table 1 Collection Analysis 2001-2002

	<b>The Hundred Divisions</b>	<b>Average Age</b>	<b>Collection</b>	<b>% Of Collection</b>
000	Generalities	1987	82	0.7%
100	Philosophy & Psychology	1987	113	1.0%
200	Religion	1972	73	0.6%
300	Social Sciences	1986	769	6.6%
400	Language	1980	71	0.6%
500	Natural Sciences & Math	1975	444	3.8%
600	Technology	1982	820	7.0%
700	The arts	1976	862	7.4%
800	Literature & Rhetoric	1970	815	7.0%
900	Geography & History	1974	1,891	16.3%

<b>Additional Category Listings</b>			
General Fiction	1979	2431	20.9%
Reference	1983	1603	13.8%
Biography	1973	682	5.9%
Professional	1981	183	1.6%
Paperback	1979	13	0.1%
Story Collection	1994	5	0.1%
Video	1987	775	6.7%
<b>Total Collection</b>	<b>1979</b>	<b>11632</b>	<b>100%</b>

The table above shows the Holmen High School collection broken down by the Dewey decimal system broad categories. One can see the table broken down by average age of each section, how many books in that section, and what percentage of the collection that section makes up in the whole collection. The additional categories have other identifying suffixes that follow Dewey but are categorized as separate entities for ease of the collection layout. One can see that the average age of the library collection in 2001-2002 was 1979 and the total number of books that were calculated was 11,632. (Figure 1) visually shows the age of each section of the library collection.

Figure 1

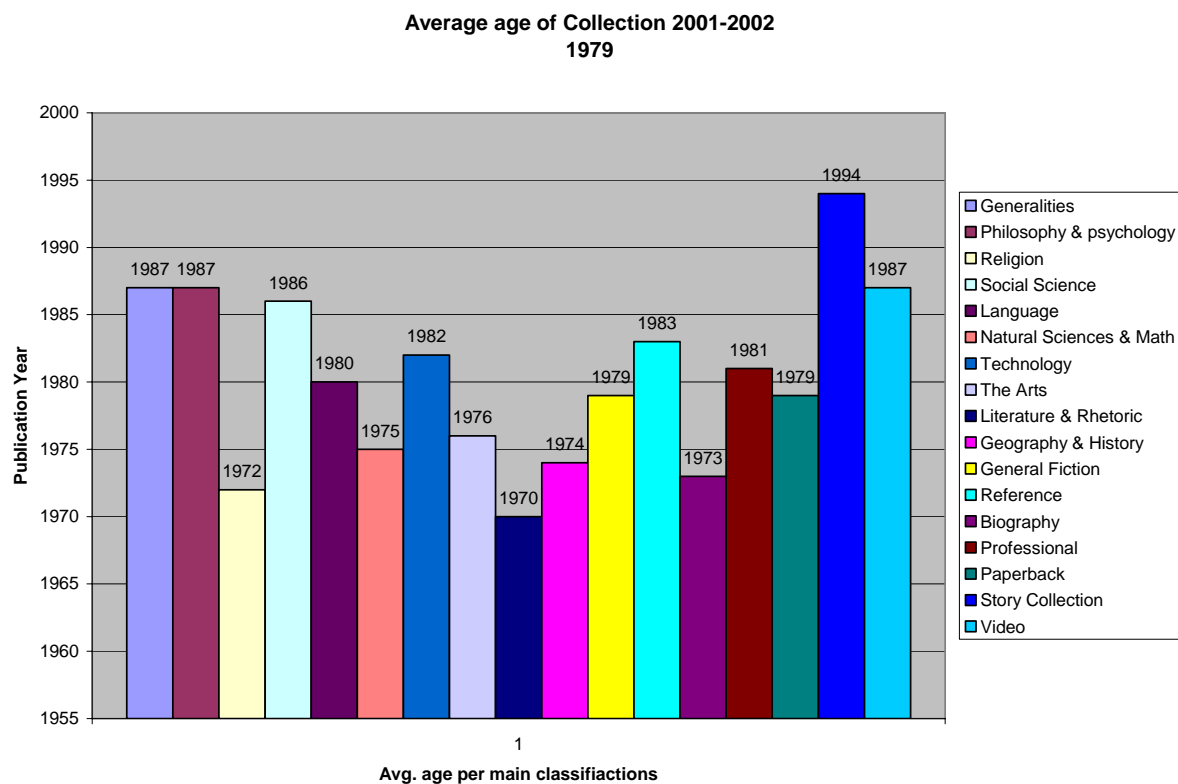


Table 2 Collection Analysis 2003-2004

	The Hundred Divisions	Average Age	Collection	% Of Collection
000	Generalities	1994	83	0.66%
100	Philosophy & Psychology	1993	132	1.05%
200	Religion	1983	74	0.59%
300	Social Sciences	1992	983	7.79%
400	Language	1985	59	0.47%
500	Natural Sciences & Math	1985	315	2.50%

600	Technology	1988	776	6.15%
700	The arts	1982	876	6.94%
800	Literature & Rhetoric	1972	833	6.60%
900	Geography & History	1981	1485	11.77%

<b>Additional Category Listings</b>				
General Fiction	1990	2483	19.67%	
Reference	1988	1726	13.68%	
Biography	1982	722	5.72%	
Professional	1986	246	1.95%	
Paperback	1989	3	0.02%	
Story Collection	1975	259	2.05%	
Video	1991	1363	10.80%	
*Audiocassettes	1984	58	0.46%	
*Compact Disc Records	1987	117	0.93%	
‡Graphic Novels	2000	28	0.22%	
<b>Total Collection</b>	<b>1986</b>	<b>12621</b>	<b>100%</b>	

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e above shows the Holmen High School collection broken down by the Dewey decimal system broad categories. One can see the table broken down by average age of each section, how many books in that section, and what percentage of the collection that section makes up in the whole collection. The additional categories have other identifying suffixes that follow Dewey but are categorized as separate

entities for ease of the collection layout. One can see that the average age of the library collection in 2003-2004 was 1986 and the total number of books that were calculated was 12,621. (Figure 2) visually shows the age of each section of the library collection.

Figure 2

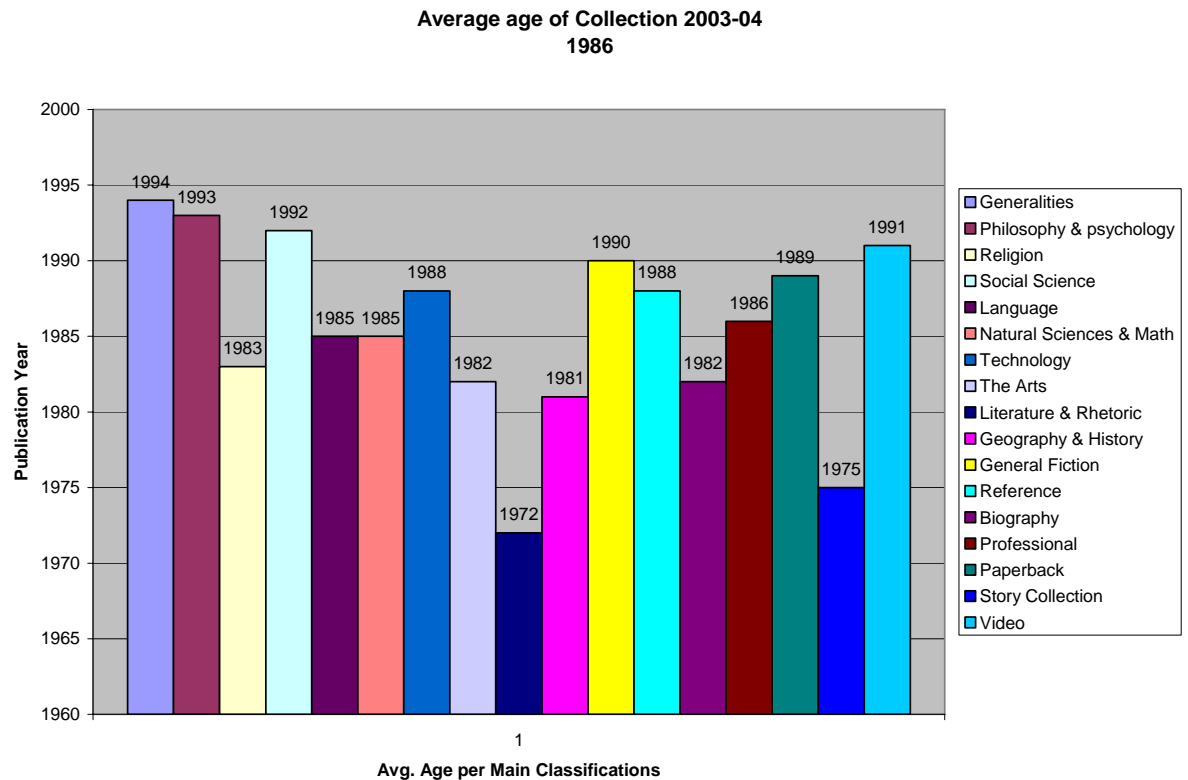


Table 3 Collection Analysis comparisons

	The Hundred Divisions	Copyright by category	Copyright by category	Increase by year	Increase by %



		<b>2001-2002</b>	<b>2003-2004</b>		
000	Generalities	1987	1994	7	0.08%
100	Philosophy & Psychology	1987	1993	6	0.07%
200	Religion	1972	1983	11	0.15%
300	Social Sciences	1986	1992	6	0.07%
400	Language	1980	1985	5	0.06%
500	Natural Sciences & Math	1975	1985	10	0.13%
600	Technology	1982	1988	6	0.07%
700	The arts	1976	1982	6	0.08%
800	Literature & Rhetoric	1970	1972	2	0.03%
900	Geography & History	1974	1981	7	0.09%
	General Fiction	1979	1990	11	0.14%
	Reference	1983	1988	5	0.06%
	Biography	1973	1982	9	0.12%
	Professional	1981	1986	5	0.06%
	Paperback	1979	1989	10	0.13%
	Story Collection	1994	1975	-19	-0.2%
	Video	1987	1991	4	0.05%
	*Audiocassettes		1984		
	*Compact Disc Records		1987		

	*Graphic Novels		2000		
	<b>Total Collection</b>				
	<b>Average</b>	<b>1979</b>	<b>1986</b>	<b>5.3529</b>	<b>0.07%</b>

The above table shows a comparison of the collection analysis' that were conducted in 2001-02 and 2003-04. One can see the years of each broad topic area and can see the trend of increase over the 3-year period. The average copyright date increased by 7 years. (Figure 3) visually shows the trend of increased copyright date.

Figure 3

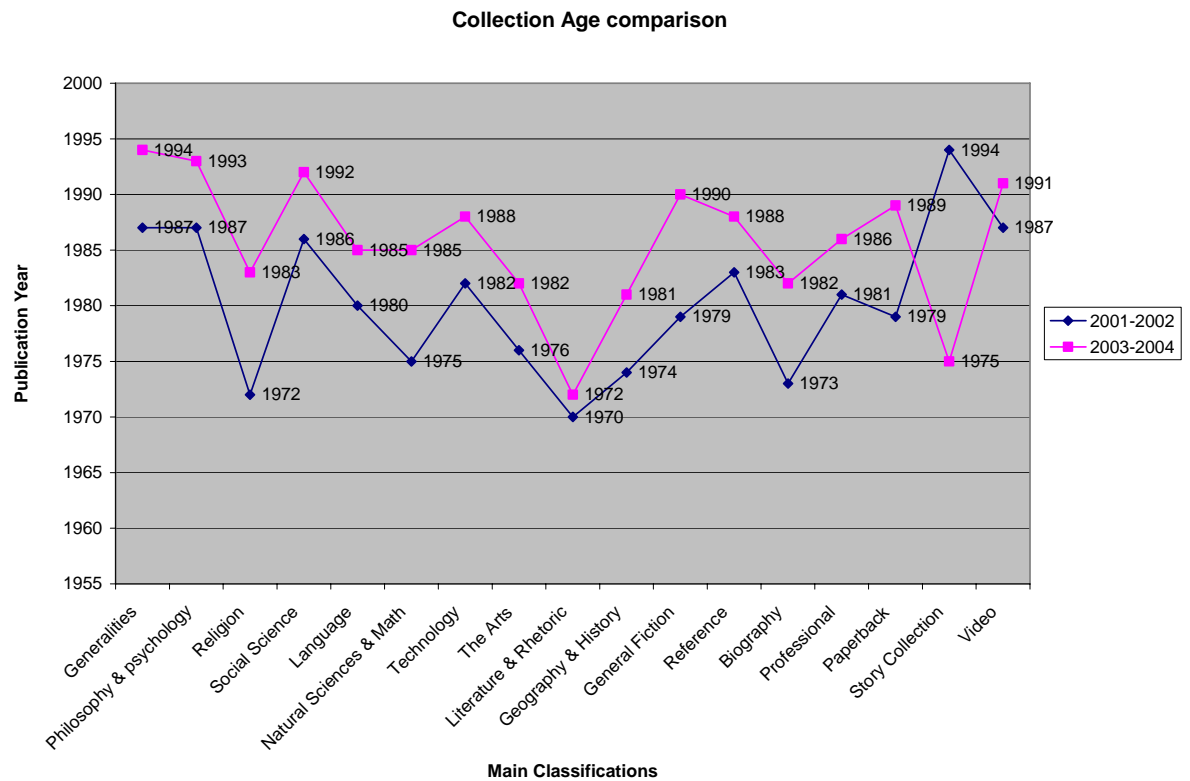
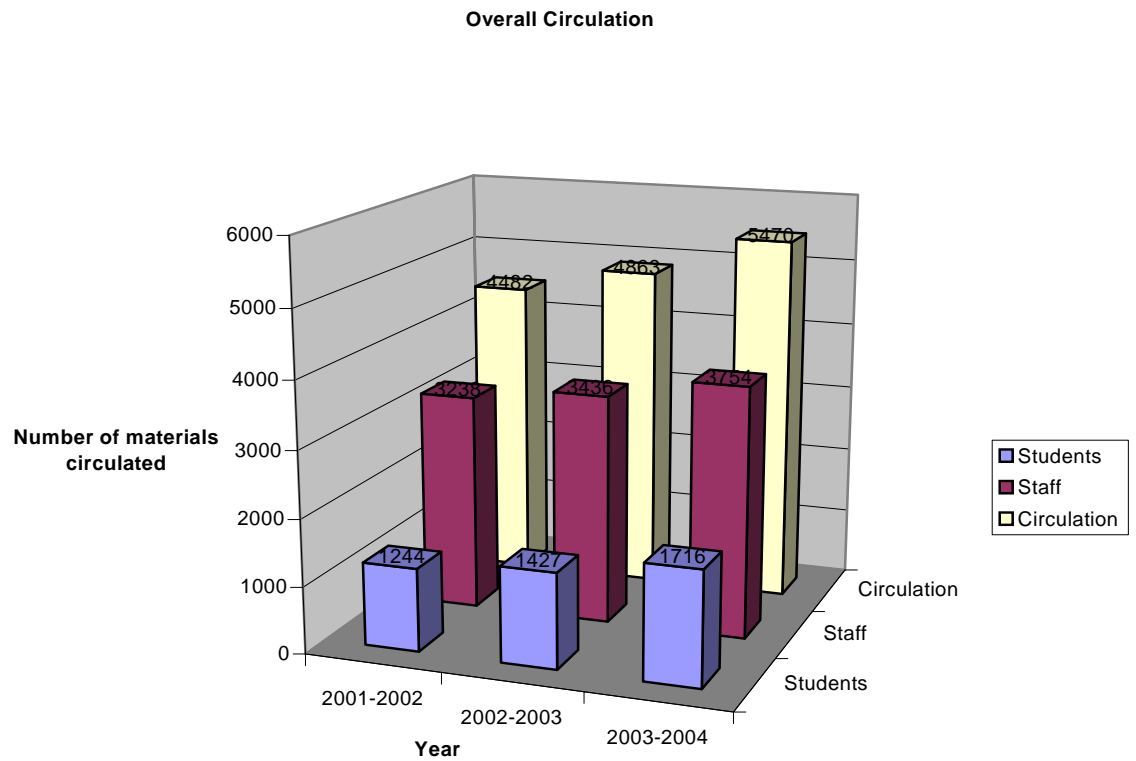


Table 4 Circulation Trends

	2001-2002	2002-2003	2003-2004	Overall Increase by %
Staff	3238	3436	3754	1.4%
Students	1244	1427	1716	1.2%
Circulation	4482	4863	5470	1.2%

The above table shows how many students and teachers checked out for three years. One can see that in all categories there has been an increase in circulation. (Figure 4) visually shows the trend of increase in circulation.

Figure 4



### C. Variables

#### *Independent*

1. Copyright year of the books in the library collection
2. How many materials circulate from the collection

#### *Dependent*

1. If teachers are included in the library collection updating process, there will be a change in the make-up of the library collection.
2. If there is a change in the age of the collection, there will be an increase in circulation.

*Other*

1. Increase or decrease in the student enrollment
2. Change in the content area curriculum
3. The amount of hours the library is open
4. Different collaboration methods
5. Integration of library materials in the classrooms

## V. SUMMARY AND CONCLUSIONS

### A. Introduction

The purpose of the study was to find the copyright age of the library collection and see if by means of collaboration with content area teachers, there would be a significant increase in circulation by patrons. The study was conducted by first having a collection analysis of the existing collection completed to see what the average copyright date was. Once the weaknesses were identified, weeding and collaboration took place. Once the needs were determined, collection development took place, and the overall results showed an increase in circulation of materials.

### **B. Summary of Reliability and Validity of Test Results**

The results were reliable overall due to the fact that they were computer generated with the information provided. Not all the information provided may have been accurate or complete. When looking at the information in (table 2), one can see that three additional categories were not taken into consideration in the first collection analysis: audiocassettes, compact disc records, and graphic novels. This may have had an affect on the overall results for the increase in the average age.

When one looks at the collection numbers in comparison from (table 1) and (table 2), one can see that there is not a huge change in the number of materials in the collection, approximately 1,000. Generally there are about 1,000-1,500 materials purchased in one year. The reason for the discrepancy in numbers is that many materials have been discarded and not all of them have been replaced.

Particular attention needs to be paid to (table 3). One can see that there is an increase in every category except story collection. The first collection analysis

compiled had only identified 3 books from this section. Many more were missed in the exporting of data. The second time the collection analysis was conducted; the story collection category had been exported correctly which gave us a -0.2% decrease in our copyright age. This may have thrown the final results off somewhat.

The results of the collection analysis are a reliable point of reference for our purposes; however, they may not be completely accurate. There are many resources in the library that could belong to a few different Dewey sections. If they were moved into a different section, the results would vary. The librarian chose where they would best fit the needs of our school.

The circulation numbers were correct because the electronic checkout system calculated those. One can see there was steady increase in circulation. Results show an increase of 1.4% circulation by teachers and a 1.2% increase in circulation by students. Over the three year period, there was a steady 1.2% increase overall.

These results were reliable; however, other ways of keeping track of checkouts are not accounted for in these numbers. Reference materials may not be checked out but are used in the library by students. If teachers would like to use the reference materials in their classroom, they are allowed to manually check them out. Keeping track in a written log does this procedure. In addition, some books get used in the library but do not get checked out. We have not consistently scanned these books for in-library usage. If all of these books were taken into account, the circulation and usage statistics would be elevated.

### C. Summary of Independent Variables

This study has shown that there was a positive correlation between the increase in copyright age of a collection and circulation. By collaborating with content area teachers in the updating process there was an increase in circulation.

### D. Summary of Results

Researchers in the area of library and other information services have investigated the effects library collections have on academic achievement of students. With the increasing demands on student achievement and teacher accountability, we must emphasize the importance of providing the tools and resources for academic achievement and the means for students to become information literate. According to the American Library Association, “To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information” (Jenson, 2004). Today’s students are highly reliant on information and as educators we must work together to provide access to the best information we can.

By collaborating with the teachers to increase the age and circulation of the library collection we are aspiring to provide the best information we can. “The single reason for building a library media collection is to support the curriculum of the school. Library collections are ‘living’ entities. This means that they need constant care and feeding if they are to provide what students and teachers need” (Loertscher, 1996). This study was intended to do just that.



### E. Conclusions

This study has shown a positive correlation between a quality up to date library collection and an increase in usage. The largest determiners of a good library collection are the age of materials and supporting the needs of the students and staff. This study showed a positive correlation between all of these components.

### F. Recommendations

While this study has shown a positive correlation between an up-to-date library collection and circulation in Holmen High School, it has not proven anything beyond. One recommendation is that library media specialists should analyze their library collections. Follett Library Resources will conduct a collection analysis for free. It will show that there is a need to continue funding the library programs to provide up-to-date information to your students. The second recommendation I have is to anyone who would conduct a similar study, include the component of student achievement in a quantitative way. It would be beneficial to have additional studies on the positive affects of strong library collections on student achievement.

## REFERENCES

- American Library Association. (1998). *Information power: building relationships for learning*. Chicago: American Library Association.
- Boon, Belinda. (1995). *The CREW Method: Expanded Guidelines for Collection Evaluation and Weeding for Small and Medium-Sized Public Libraries*. Austin, TX: Texas State Library.
- Curtis, Della (2000, Nov./Dec.). School library renaissance in Baltimore County. *Multimedia Schools*, 7, 18(6). Retrieved January 8, 2004, from EBSCO, Professional Development Collection database.
- Daigneault, A. (1990, Sep/Oct). Getting to know the collection. *Book Report*, 9, 33(2). Retrieved January 11, 2004 from EBSCO, MasterFILE Premier database.
- Doiron, Ray (2002). An administrator's guide to collection development. *School Libraries in Canada*, 21, 18(4). Retrieved January 11, 2004 from EBSCO, MasterFILE Premier database.
- Hatcher, April (2001, Mar./Apr.) Fine-tuning your library media collection (cover story). *Book Report*, 19, 15(2). Retrieved January 8, 2004, from EBSCO, Professional Development Collection database.
- Information Institute of Syracuse, (2004). Forum overview. retrieved Oct 1, 2004, from National Forum on Information Literacy Web site:  
<http://www.infolit.org>.
- Information power; building partnerships for learning* (1998). Chicago, IL: American Library Association.
- Jenson, J. (2004). It's the information age, so where's all the information? *College Teaching*, 52(3), p107 6p. Retrieved Sep 1, 2004, from EBSCO database.
- Kennedy, John (1998, March). Education management: ending before it ever really started, or only just beginning? *Education for information*, 16, 45(12). Retrieved January 8, 2004 from EBSCO, Professional Development Collection database.
- Lance, K. (2004). Libraries and student achievement: the importance of school libraries for improving student test scores. Retrieved Oct 07, 2004, from [www.ciconline.org](http://www.ciconline.org).
- Loertscher, David V. (1996). *Collection mapping in the LMC: building access in a world of technology*. San Jose, CA: Hi Willow Research and Publishing.

- Lowe, C. (2000). The role of the school library media specialist in the 21st century. *ERIC Digest*. Retrieved Oct 1, 2004, from EBSCO Database.
- Minkel, W. (2003). The next big thing. *School Library Journal*, 49(5), p41, 1p.
- National Board for Professional Teaching Standards, (2001). Nbpts library media standards. Retrieved Nov. 09, 2004, from Fields of certification Web site: <http://www.nbpts.org/candidates/guide/whichcert/24EarlyChildYoungLibMedia2004.html>.
- Pearson, Richard C. & Turner, Kaye Y. (1999). *No information is better than misinformation*. Fort Atkinson, WI: High smith Press LLC.
- Russell, Shayne (2000). Teachers and librarians: collaborative relationship. *ERIC Clearinghouse*. Retrieved November 9, 2003 from EBSCO Database.
- Scholastic library publishing, (2004). Impact of school libraries and library media specialists on student academic achievement. Retrieved Oct 1, 2004, from Scholastic Web site: [http://www.scholasticlibrary.com/download/slw\\_04.pdf](http://www.scholasticlibrary.com/download/slw_04.pdf).
- 21st century literacy @ your library. (2001). retrieved Oct 1, 2004, from Professional tools Web site: <http://www.ala.org/ala>.
- Van Orden, Phyllis J. (1995). *The collection program in school: concepts, practices, and information sources* (2<sup>nd</sup> ed.). Englewood, CO: Libraries Unlimited Inc.
- Yoke, B. (2004). Leave no library collection behind *Library media connection*, 23(1), 34, 3p. Retrieved Oct 07, 2004, from Academic Search Elite database.
- Yucht, Alice H. (2000, December). Strategy: collection development concerns. *Teacher Librarian*, 28, 46(2). Retrieved January 11, 2004 from EBSCO, MasterFILE Premier database.

APPENDIX A

Teacher Collaboration Questionnaire

**Teacher's name** \_\_\_\_\_

**Department** \_\_\_\_\_

**Classes taught** \_\_\_\_\_

\* Please answer the following questions to assist in my collaboration goal in updating the library collection to align with curriculum needs. Thank you in advance!!

1. Do you bring your students to the library for research and/or other projects?

Yes\_\_\_\_ No \_\_\_\_

2. When you use the library, do we have enough resources for your students?

Yes \_\_\_\_ No \_\_\_\_ Sometimes\_\_\_\_

Comments:\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. When *you* use the library, do we have enough resources for *you* to assist in your teaching? (I.e. books, videos, professional materials, etc.)

Yes\_\_\_\_ No \_\_\_\_

Comments:\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. When your students use the library, what resources do they mostly use?

(Please check all that apply)

\_\_\_\_\_ Internet \_\_\_\_\_ Online resources (Badgerlink, Galegroup, Facts.com)

\_\_\_\_\_ Books \_\_\_\_\_ Magazines

5. In order to select the best quality materials, what major units or projects do you assign?

(Briefly explain)

6. When you assign projects, what topics do you suggest your students choose?

**Suggestions for ordering: (Specific titles or subject areas)**

\*\* If you have found something in a catalog, return it with the questionnaire.

Including Content Area Teachers  
APPENDIX B

LMC visit follow-up  
Please fill out and return to Erin Foster

Teacher: \_\_\_\_\_  
Research Topic: \_\_\_\_\_  
Date: \_\_\_\_\_

Did your students find the material(s) they needed to aid in completing their  
assignment/project? \_\_\_\_ Yes \_\_\_\_ No

If no, what could have been added or done differently in order for the students to  
have succeeded in their research?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

—

\_\_\_\_\_

—

\_\_\_\_\_

—

Comments (optional):

\_\_\_\_\_

\_\_\_\_\_

—

\_\_\_\_\_

—

WILL APPLYING DIRECT INSTRUCTION IMPROVE STUDENT SCORES?

By

CARRIE JOHNSON

B. A. Elementary Education Winona State University, 1999

A capstone submitted to the

Faculty of the Graduate School of Winona State University

in partial fulfillment of the requirement for the degree of

Master of Science

Department of Education

December 2004

This capstone entitled:  
Will Applying Direct Instruction Improve Student Scores?  
written by Carrie Johnson  
has been approved for the Winona State University Department of Education by

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Date \_\_\_\_\_

The final copy of this capstone has been examined by the signatories, and we find that both the content and form meet acceptable presentation standards of scholarly work in the above mentioned discipline.

Johnson, Carrie (M.S., Education)

Will Applying Direct Instruction Improve Student Scores?

Capstone directed by Dr. Thomas Sherman

### Abstract

The focus in public education today, which is being driven by the No Child Left Behind Act, is for schools to demonstrate accountability through standardized testing. The effect on student scores resulting from the application of direct instruction strategies is examined in this study.

Direct instruction was applied to two science classes studying the scientific inquiry unit. With the exception of the direct instruction strategies, the unit was presented to the students in precisely the same manner as it had been presented to the previous year's two classes. The direct instruction strategies included providing the students with a list of terms, definitions, and concepts they would be expected to learn; giving weekly quizzes composed of those terms, definitions, and concepts; and tracking the weekly quiz scores. The scores of the unit test of the two classes receiving the direct instruction strategies were compared to the scores of the two classes that had taken the same test the previous year.

There was a significant test score increase for the classes receiving the direct instruction. Increases in participation level, engagement in explorations, and mastery of vocabulary were also observed, though not scientifically measured. Direct instruction strategies will be applied to the entirety of science units taught. It will also



be used as a method of keeping previously learned information active and alive in the classroom.

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## CHAPTER I: INTRODUCTION

### Need for the Study

Accountability is the driving force behind public education today. In many cases across the country, the demand for school accountability is accompanied by tightened budgets. State educational offices, such as the Minnesota Department of Education, politicians, business leaders, and citizens are all demanding results. With the development and implementation of the No Child Left Behind Act and individual state standards, there is tremendous pressure to prepare our students to pass standardized tests. The consequences for schools sited as not making adequate yearly progress have potential to be severe. In order for a school to avoid being sited, the students must demonstrate their growth and knowledge acquisition on year end tests such as the Minnesota Comprehensive Assessments (MCA's). These accountability tools are here to stay.

### Statement of the Problem

Students have difficulty retaining information from one unit to the next, not to mention from one year to the next year. When beginning a new unit, students often have difficulty recalling information (terms, definitions, dates) that was presented and studied in the previous unit of study or during the previous year of instruction. It is also apparent when reviewing material for semester-end and year-end assessments, that students struggle to recall information that was presented in previous lessons. The concepts are often present, but specific content, such as locations, names, dates, and vocabulary seem to be forgotten. This problem could very well be the result of

our current practice of testing and moving on, which actually gives students permission to forget.

### Purpose of the Study

The trend in education is to correct problems by making drastic changes. We think nothing of making significant, and sometimes costly, changes. We restructure staffing or teams, create remedial programs, implement thematic teaching approaches, implement departmentalization, or completely change curriculum all in the hope of increasing student achievement. We need to stop spending valuable time and money on making changes and start focusing on making improvements to what we are already doing. We need to improve our teaching practices with the goal of increasing successes and decreasing failures.

### Statement of the Hypothesis

If teachers provide students with the specific expected outcomes of a unit, and they hold them accountable by continually presenting and assessing material (applying direct instruction), their unit test scores will increase.

### Definition of Terms

Direct instruction - To provide students with expected outcomes, to continually review and assess expected outcomes, and to monitor progress of expected outcomes.

Expected outcomes - The specific and precise content of unit, including terms, definitions, processes, and concepts.

Departmentalization - The teaching of specific subjects by specific teachers.

Teams - Teachers that plan collaboratively and the common group of students that they teach.

Unit test - The common assessment covering the unit of study being taught throughout the study that was administered to the control group and the experimental group.

### Variables

The application of direct instruction is the independent variable of the study. The dependent variable of the study is the unit test score. The control variables of the study were having the same teacher, teaching a common unit, administering a common assessment, and teaching the unit at the same time of the year. Educational background, socio-economic status, family support, prior knowledge, and life experiences are moderator variables that potentially could have had an impact on the results of the study.

### Limitations and Delimitations of the Study

The test scores of students receiving direct instruction strategies were compared to the test scores of the previous year's students that did not receive direct instruction strategies. Both groups of students had been taught the Core Knowledge Sequence 'What is Science?' unit, by the same teacher, at the same time of the school year. I was unable to control for individual differences in ability, support received at home, and socio-economic status of families.

## CHAPTER 2: REVIEW OF RELATED LITERATURE

### History of Direct Instruction

Direct instruction, which is a systematic method of teaching that provides constant interaction between students and the teacher, through the work of Siegfried (Zig) Engelmann and Carl Bereiter, was conceived in the 1960's. The foundation of their work was based on the belief that careful and systematic teaching of academic skills could stimulate the cognitive growth of young children. Their work began with children that attended a pre-school that was associated with the University of Illinois. They were particularly interested in what impact this model of teaching would have on children living in economically deprived situations. For two hours daily, in small groups, the four- and five-year-old children that attended this preschool participated in intensive teacher-directed instruction (Martella, Slocum, and Martella 2004). The success of this program spurred the Project Follow Through study. This study, which cost more than \$1 billion, studied several instructional models and their effects on more than 20,000 students across the nation. Direct Instruction provided better results than the other models tested (Lindsay, 2004). There has been a renewed interest in the Direct Instruction model in the last fifteen years.

### Why Implement Direct Instruction?

In his book *Cultural Literacy* (1988), E. D. Hirsch, Jr. Describes two very different educational approaches or theories. The writer, John Dewey, has deeply affected the educational theories and practices of our country. He subscribed to Rousseau's theory that a child's social skills and intellect would grow naturally

without the practice of teaching specific content. He placed his faith in the child's ability to learn general skills from a few typical experiences. Plato, on the other hand, believed that the most important elements of education are the specific contents that are taught (Hirsch, 1988). Correlations have been made between Hirsch's Core Knowledge Sequence curriculum and direct instruction techniques (Adams, 2004). Hirsch contends that the anthropological theory of education, which accepts the human naturalness of intellect growth as well as the acquisition of cultural information, is the ideal educational theory (2004).

Providing students with advance organizers is an important component of effective instruction. This advance organizer can include concepts, skills, vocabulary, and facts about an upcoming unit of study (Marzano, Pickering, and Pollock, 2001). Dr. W. Edwards Deming, in the book *Improving Student Learning* (2003), equates this practice to telling students the rules of a game. Children will be eager to embark on a journey of learning if they know the process and the expected outcomes, just as they will be eager to participate in playing a game if they know the rules (Jenkins, 2003). "Students need to know where they are going and why (Orlich, Harder, Callahan, Trevisan, and Brown, 2004)."

Educators don't dispute the fact that students typically do not even remember what they are taught for two weeks after instruction (Jenkins, 2004). Lee Jenkins, in his book, *Permission to Forget: and Nine other Root Causes of America's Frustration with Education* (2004), contends that many popular current methods of instruction are actually granting students permission to forget. Studying concepts, testing, and moving on are not adequate steps to encourage deep and meaningful

learning. Granting students permission to forget is the backbone of today's educational problems. Jennings feels that continually reviewing previously taught information, through weekly ungraded quizzes, is an essential component to improving student learning. Seventy percent of all ungraded quizzes and graded tests should consist of questions from the current unit of study, while thirty percent of the test questions should be drawn from material that has already been taught, even information that has been taught in previous years of school. The seventy percent of ungraded quiz questions should include questions regarding material taught in the current unit as well as material that is yet to be taught in that unit (Jenkins, 2003). One of the most critical elements for teachers to use to stimulate student thinking is questioning (Orlich, Harder, Callahan, Trevisan, and Brown, 2004). The practice of frequent questioning will increase student interest in a topic, promote student engagement in instruction, and encourage a deeper understanding of the topic (Marzano, Pickering, and Pollock, 2001).

In effective teaching, using quality tools to monitor and evaluate both individual student progress and the progress of the entire group is essential to experience continuous improvement. The most effective tools evaluation tools include some form of individual and class tracking of scores, such as plot graphs or running line charts (Orlich, Harder, Callahan, Trevisan, and Brown, 2004). Noting individual and class progress is a key way for teachers to know how long to remain on a topic, what material to re-teach, and when to move on (Adams, 2004). The peak of student enthusiasm is another benefit of documenting student and class growth. Students embrace and welcome the challenge of improving their own



individual scores in order to contribute to the overall gains of the class (Jenkins, 2003).

In the last fifteen years, there has been a renewed interest in the direct instruction model of teaching (Marchand-Martella, Slocum, and Martella, 2004). In the past, direct instruction has occasionally been referred to as rote learning, and has therefore been accused of being detrimental to student learning. Research clearly shows, however, that direct instruction does transfer skills across a broad range of students and subjects (Orlich, Harder, Callahan, Trevisan, and Brown, 2004). The data shows that direct instruction techniques excel in promoting life long learning. It also provides skills, self-esteem, and positive feelings that contribute to a sense of confidence and accomplishment. Lindsay feels direct instruction, focusing on basic and specific skills, demands more attention (Lindsay, 2004). Direct instruction has grown beyond it's original intent of providing academic achievement for low-achieving and underprivileged students. Research results indicate, however, that all students make gains when exposed to well-designed and explicitly taught skills (Hall, 2002).

#### Application to Science

When it comes to science, the popular belief held by educators is that students learn best when active, not when sitting and listening. The federal No Child Left Behind Act will require students to demonstrate proficiency in science through testing beginning in 2007. This mandate is forcing educators and researchers to examine effective modes of science instruction. Researchers at Carnegie Mellon University and the University of Pittsburgh found that students taught through direct

instruction were more likely to excel in designing scientific experiments, than students that were taught through various forms of discovery learning. The ability to design scientific experiments is crucial in the development of scientific reasoning skills. The students scored equally well on a broader scientific judgment test. David Klahr, an author of the study, identifies the need of direct instruction strategies when teaching complex science lessons. Direct instruction is viewed as a contrast to discovery learning. Klahr feels a balance of both teaching methods provides ultimate science instruction. The National Science Teachers Association also promotes the blending of teaching strategies. Both direct instruction and laboratory experimentation should be used in order to experience optimum student learning (Cavanagh, 2004).

### CHAPTER III: METHODS AND PROCEDURES

#### Overview

The effects of the application of direct instruction strategies on student test scores were analyzed by this study. Direct instruction techniques, including providing students with expected outcomes, continually reviewing and assessing expected outcomes, and monitoring progress of expected outcomes, were implemented in the teaching of the first science unit of the school year. Students were provided with an advance organizer of the information to be presented in the unit. Weekly quizzes, consisting of ten questions were given. Students tracked their individual progress, and the class results were posted. The unit test scores of this

year's two classes consisting of sixty-four students were compared to the unit test scores of last year's two classes consisting of sixty-four students. Last year's classes were not exposed to direct instruction strategies.

### Research Design

This experiment consisted of a control group that did not receive the application of the independent variable, and an experimental group to which the independent variable was applied. The independent variable of the study was the application of direct instruction strategies. The unit test scores of the experimental group was the dependent variable of the study.

### Subjects

The participants of this study included sixty-four sixth grade students enrolled in the Core Knowledge program at Kellogg Middle School during the 2004-2005 school year (Group A-experimental group). The sixty four students made up two classes of 32 students that were taught the same curriculum by the same teacher. The students ranged in age from ten to twelve years old. Since the Core Knowledge program is a choice program, it draws students from many different parts of Rochester. This program has representation from ten different elementary schools including two private schools and two choice programs. The student population was approximately 99% Caucasian, with one student being serviced in special education. The majority of the families were middle class with both parents working outside the home. The group consisted of 36 boys and 28 girls. The unit test scores of this

group were compared to a similar group of 64 students enrolled in the Core Knowledge program at Kellogg Middle School during the 2003-2004 school year (Group B-control group). The sixty-four students made up two classes of 32 students that were taught the same curriculum by the same teacher. The make-up of the control group was very similar to that of the experimental group. The only difference being a slightly different gender representation. There were 32 boys and 32 girls in Group B.

### Instruments

The instruments used in the study were a unit overview (Appendix A), a list of unit quiz questions (Appendix B), weekly quiz score sheets (Appendix C), wall charts, and the Baltimore Curriculum Project unit and assessment titled *What is Science*.

### Validity and Reliability Measures

The validity of the experiment was strong. All variables, with the exception of the independent variable, of the actual experiment were controlled. The students attended the same school, studied the same curriculum under the same teacher, and took the same test. The reliability of this study was also strong. The t test results indicated there was a very small chance that the change in test scores occurred because of anything other than the applied treatment. Some outside, uncontrollable factors that could have had a slight impact on the results were student aptitude, gender ratio, prior knowledge, life experiences, and parental support.

### Procedures

At the beginning of the unit, all students in Group A were given a quiz consisting of ten questions. These questions were randomly selected from a teacher-created list covering unit objectives and outcomes. Results of the quiz were recorded on individual weekly score sheets that were managed by the students. Each student then placed a sticker on the class result chart in the area that represented their score. Individual quiz scores were not graded and did not contribute to the students' class grades. The students were then provided with a unit overview that consisted of definitions and concepts that would be taught in the science unit. The weekly quizzes were given at the beginning of the class period every Monday throughout the unit. The scores were recorded every week on the individual score sheets and the class chart. At the completion of the unit, a unit test was administered to both of the classes. The unit test scores were compared to the scores of the same test that was given to last year's students (Group B).

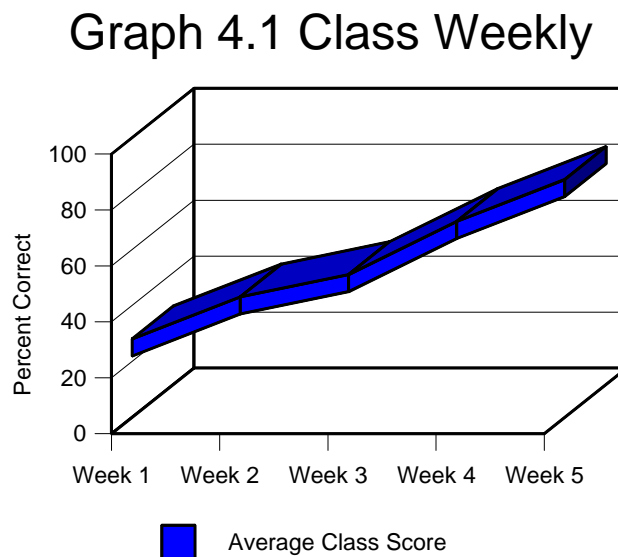
### Conclusion

This study measured the effects of the application of direct instruction techniques on unit test scores. Students were initially provided with a unit overview, and they were given weekly ungraded quizzes throughout the unit. Individual and class results were recorded. A unit test was administered at the end of the unit, and the results were compared to last year's scores.

## CHAPTER IV: RESULTS AND DISCUSSION

The purpose of this study was to determine whether or not the application of direct instruction strategies would result in increased unit test scores for students. Students were provided with an overview of the unit to be taught. A total of five weekly quizzes were administered throughout the duration of the unit. The first weekly quiz score was quite low. The scores ranged from zero to three correct answers. There was a steady increase in the number of correct quiz answers as the unit progressed. The range of correct answers on the fifth quiz was from seven to ten. Graph 4.1 shows the class results of the weekly quizzes.

Graph 4.1



## WILL A CHECK-IN TIME IMPROVE HOMEWORK COMPLETION?

Will a morning check in time with each student, along with a charting program requiring a parent signature, improve the student's success with homework completion?

Melissa Jane Klapperich

A capstone submitted to the Faculty of the Graduate School of Winona State University

In partial fulfillment of the requirement for the degree of

Master of Science

Department of Education

December 2004



This capstone entitled:

Will a morning check-in time with each student, along with a charting program requiring a parent signature, improve the student's success with homework completion?

Author: Melissa Jane Klapperich

Has been approved for the Winona State University Department of Education by

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The final copy of the capstone has been examined by the signatories, and we find that both the content and the form meet acceptable presentation standards of scholarly work in the above mentioned discipline.

Klapperich, Melissa Jane (M.S., Education)

Will a morning check-in time with each student, along with a charting program requiring a parent signature, improve the student's success with homework completion?

Capstone directed by Dr. Thomas Sherman

#### Abstract

The purpose of homework is to enhance student achievement, help students become self-directed independent learners, and develop good work habits. Homework can be useful to teachers for monitoring student progress, and diagnosing student learning problems. Homework increases communication between parents and schools to encourage parental awareness of student learning. Research was conducted to determine if a morning check-in time with each student, along with a charting program requiring a parent signature, improved the student's success with homework completion. Students receiving this intervention met with a teacher each morning before school to examine what they were able to complete the previous evening. This time offered support, advice, or assistance of any type. Progress was charted and students were rewarded for a job well done. The students who actively participated in the program, and got the support from their parents, improved significantly in getting their homework done. Students not putting full effort into the program, or lacking support from home, were not as successful as those that actively participated.

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Will a morning check in time with each student, along with a charting program requiring a parent signature, improve the student's success with homework completion?

## CHAPTER ONE

Divergent feelings exist about homework and its usefulness. The purpose of homework is to enhance student achievement, help students become self-directed independent learners, and to develop good work habits. Homework can also be useful to teachers for monitoring student progress and diagnosing student learning problems. In addition, assigning homework can lead to increased communications between parents and schools to encourage parental awareness of student learning. This leads to a better understanding among all involved that the teacher, and the school as a whole, hold high expectations of their students. (Mayers, A., & Slagle, J. (2002).

### *Statement of the Problem:*

Students handle the responsibility of doing homework at different levels. There are students who routinely don't complete their homework, lose it, or simply ignore it altogether. These same students may lack the parental support necessary to achieve success with their homework completion.

### *Purpose of the Study:*

The purpose of this action research project was to determine if, and how, homework completion programming for students such as these can improve homework completion. The action research question is: Will a morning check-in

time with each student, accompanied by a charting program requiring a parent signature, improve the student's success with homework completion?

*Statement of the Hypothesis:*

Student success with homework completion will improve significantly with a morning check-in time accompanied by a charting program.

*Limitations and Delimitations of the Study:*

The students being studied are homogenous in many respects. All are 6<sup>th</sup> grade students at Cannon Falls Middle School. All are in a social studies class with the same teacher, rules, requirements and assignments. All have a similar class size ranging from 24 to 27 students. All are 11 or 12 years of age, and all live within the Cannon Falls community.

The differences students possess that may be a factor in this study are obvious. The personal work ethic will make a difference. One of the students is on a 504 plan. Several come from single-parent homes while the others have both parents living with and supporting them. In addition, there could be significant "distractions" within their personal lives that the teacher may not be aware of which could influence school performance

## CHAPTER TWO

### Review of Related Literature:

The controversy regarding the value of homework has begun again. Homework controversies follow a 30-year cycle, with outcries for more homework or less homework occurring about 15 years apart. (Cooper, H. 2001)

Being sick and tired of homework is nothing new. For decades students and parents alike have complained about the excessive amount of homework required by schools. In fact, roughly 100 years ago educational experts considered homework unhealthy and a waste of time. (Strauss 2003) It isn't clear how much homework was assigned back then, but anecdotal evidence indicates it was most likely rote memorization. This would lead to arguments about the issue of homework.

Those in opposition of homework in the late 1800's felt it was better for the children to frolic in the sun rather than sit in stuffy rooms memorizing information. Doctors at the time even claimed that homework caused nerve damage and deformed spines. Still others concluded that homework was going to lead to the ruin of family life as they knew it. (Strauss 2003) Many schools began to limit, or even forbid homework.

Homework didn't see a revival until the 1950's after Sputnik was launched by the Soviet Union. This started a great space race with the United States. Americans were determined to better educate their youth in math and science, and students began to study harder, thus homework was reintroduced. (Strauss 2003)

Policy makers have used research to muster a case for every possible position on homework. (Cooper, H. 2001) Among the suggested positive effects of homework,



the most obvious is that it will have an immediate impact on the retention and understanding of the material it covers. Indirectly, homework will improve students' study skills, improve their attitudes toward school, and teach them that learning can take place anywhere, not just in school buildings.

Homework has many potential nonacademic benefits as well, most of which relate to fostering independent and responsible character traits. Homework can involve parents in the schooling process, enhancing their appreciation of education and allowing them to express positive attitudes toward their children's achievements and accomplishments. According to Harris Cooper (2001), an education professor at Duke University,

The suggested negative effects of homework make more interesting reading. Some educators and parents worry that homework could lead to students feeling satiated with academic information. They suggest that any activity can remain rewarding for only so long. If students are required to spend too much time on academic material, they are bound to grow bored with it. Others say that homework denies access to leisure time and community activities. Children learn important lessons, both academic and nonacademic, from soccer and scouts. Another problem is that parental involvement can often turn into parental interference. For example, parents can confuse students if the instructional techniques they use differ from those used by teachers. Homework can also lead to the acquisition of undesirable character traits by promoting cheating, through either the direct copying of assignments or help with homework that goes beyond tutoring.

Finally, homework could accentuate existing social inequities. Students from low-income homes will have more difficulty completing assignments than their middle-class counterparts. Low-income students are more likely to work after

school or may not have quiet, well-lighted places in which to complete their assignments. Homework, opponents argue, is not the great equalizer. (p. 34-38).

Today students perceive they do many hours of homework each night. (Strauss 2003) According to Strauss's remarks about a new report by the Brookings Institution, research shows that daily time spent on homework in the United States increased from 16 minutes in 1981 to slightly more than 19 minutes in 2003. (Strauss 2003) From this report it appears that the only students who have seen an increase in the amount of homework are the ones that previously had no homework at all and now have a small amount. In "Educational Leadership", Harris Cooper (2001) wrote,

Nine studies correlate time on homework with achievement, looking at how performance levels are a function of the amount of time spent on homework. As we might expect, the line of progress is flat for younger student. For junior high school students, achievement continues to improve with more homework until assignments last between one and two hours a night, at which point achievement levels do not improve. For high school students, however, progress continues to go up to the largest number of hours spent on homework each night. Although common sense dictates that there is a point of diminishing returns, the more homework that high school students do, the higher their achievement levels. ( p. 34-38).

The debate over homework continues. Researchers continue to try to discover the relationship between homework and achievement. Although students have probably always felt like they've had too much homework, parents are now jumping on the bandwagon and have taken up their cause. (Mathews 2003) This has caused many schools to implement homework guidelines that help justify the amount given.

Many resources suggest there is no evidence that homework helps elementary age children. It can, however, help middle school children somewhat and can significantly help high school students. Tom Loveless, director of the Brown Center on Education Policy at Brookings, suggests that whatever amount of homework done before fifth grade does not seem to affect achievement rates. However, homework done in middle school and high school is associated with higher test scores. Basically, the very young have short attention spans and don't know how to study on their own, thus making the idea of homework inappropriate. (Mathews 2003)

Strauss reports that David Davenport, former president of Pepperdine University, stated, "I don't think we are improving family life, or even the kid's education by piling it on." (Strauss 2003) Studies suggest that high school students may have more homework because they are taking tougher classes which require more rigor. That does not necessarily mean that homework is boosting achievement. On the other hand, low achieving elementary students may have to do more homework because they are working harder to catch up. The homework is not causing learning problems.

Harris Cooper concluded that homework is neither good nor bad. (Strauss 2003) He feels the question for educators and parents is not whether homework is necessarily good or bad for the students. He feels we should focus on how to prevent the negative effects from surfacing. To avoid negativity about homework, flexible homework policies should let schools and teachers consider the unique needs of each student. Parents, teachers and school districts should avoid the extremes. (Cooper, H. 2001)

Information obtained from an Internet site about helping students (<http://www.nwrel.org/scpd/sirs/1/cu1.html>) claims,

Homework can bring together children, parents, and teachers in a common effort to improving student learning. Teachers are a vital link in making this happen.

The benefits of homework begin in school. Students who complete their homework successfully improve their chances for academic success. But homework develops habits and attitudes that work to a student's advantage far beyond the classroom.

Qualities like self-discipline, responsibility, and a love of learning benefit students throughout their lives (Northwest Regional Educational Laboratory, 2003, p. 1)

In conclusion, research indicates that higher achieving students are found in schools where homework is routinely assigned and graded. Traditional homework in the early years is not very effective and should, if possible, not be given at all in the primary grades. Establishing study habits and learning skills should be the focus of the elementary grades.

Additionally, it is agreed the amount of homework increases significantly throughout the school years. Homework should be meaningful and useful, developmentally appropriate, motivational, explained well, and clearly understood by both students and parents.

Finally, students complete homework more often when it is central to the course work, routinely collected by the teacher, and reviewed during class time. Homework should directly reflect the current subject matter, assigned at a level in which the child can succeed, and be checked with feedback given as soon as possible. Giving homework on a regular basis may increase achievement and improve attitudes toward learning.

### CHAPTER THREE

#### Methods and Procedures:

##### *Overview:*

There are students who just can not complete homework on time, if at all. Accountability being an issue, a system was established where students checked in each morning with the researcher to review the previous day's homework assignment for completion. Students in this study were invited to check in with their social studies teacher each morning before school to examine completed homework from the previous school day. This check-in time offered support, advice or assistance of any type. Progress was charted and students were rewarded for a job well done. Students meeting homework expectations could choose a reward. It was the expectation that individual check-in time would motivate students to complete their work most, if not, all of the time. This was also a time to engage parental involvement as well. Each day a small form was sent home with each child to be signed by a parent. This form communicated whether the parent checked the child's homework, talked about their day and reinforced the program.

Upon completing the study, a survey was administered to both the students and their parents. The survey asked questions regarding both attitude and effectiveness of this study.

##### *Design:*

Teachers find times in their career when they have experienced difficulty with students who simply do not complete their homework. Based on the literature

review, social studies homework was assessed and found to be appropriate and relevant. Prior interventions to improve homework completion have proven to be ineffective. Instead of just “living with it”, one more intervention was initiated. Action research was done to determine if a morning check-in time with each student, accompanied by a charting program requiring a parental signature, improved the students’ success with homework completion. Students’ attitudes about homework improved, accountability improved, and they, along with their parents, understood the importance of support from home as well as school. The researcher selected students, discussed validity and reliability measures, completed field procedures, and evaluated the action research.

*Selection of Subjects:*

It was important to only select those showing significant problems with homework completion. It was not necessary to check with the remaining students who showed competence with homework completion. A log was kept of late/missing assignments from the first quarter of the 2003-2004 school year. Students having difficulty with homework completion were noted. A meeting was arranged with fellow sixth grade teachers to see if they, too, were seeing homework completion problem with these specific students. Upon confirmation that the problem existed in other areas, these students were selected. It came to a total of nine students out of a class of 104. Although this number may seem small, it was the researcher’s intention to work with a small sample size consisting of the most severe cases.

The selection group of nine students consisted of five female and four male subjects. One was on a 504 plan, a legal document falling under the provisions of the Rehabilitation Act of 1973. It is designed to plan a program of instructional services to assist students with special needs who are in a regular education setting. The average age of these students was 12 years. Four of the students came from single-parent homes. Five came from two-parent homes. Two of these students were being medicated for ADHD, and one other was being evaluated at the time of this study.

*Validity Measures:*

Of the nine students studied, surveys were returned from five of them. Surveys included forms completed by both students and parents. Results of the survey indicate both parents and students found the program beneficial to the student.

Also in favor of the program are other members of the 6<sup>th</sup> grade teaching team. They feel the individual time and attention spent on these at-risk students has helped improve skills carrying over into the other disciplines. The researcher herself has seen benefit in the study. In conclusion, the researcher feels the program was valid and has provided concrete evidence indicating the effectiveness of the program.

*Reliability Measures:*

This study does not appear reliable. Information can not be exactly replicated with the same results expected. Questions on the surveys are unpredictable. The parental component can vary. Techniques used by the teacher when relating to the students could have an effect on the results.

*Field Procedures:*

The first step in the process of initiating this action research project was to identify which children were at risk and in need of an intervention. Students were tracked for 17 days. Documentation was made when a child did not have homework completed or partially completed. A determination was made as to which students would join a program in helping complete assignments each night. Upon observing the data, nine students were determined to be in need of this service.

These nine students met with their social studies teacher to review the program and to understand why they had been chosen. All nine agreed to join the program and they showed enthusiasm.

The homework completion program was implemented by Melissa Klapperich, the sixth grade social studies teacher. The idea originated from a book called, The Teacher-Parent Partnership by Angela Maiers and John Slagle. This idea was modified to best fit the needs of these particular students. Before initiating the program, contact was made with each of the nine student's parents to discuss the plan. All were interested in having their child participate, and all understood the responsibility necessary on their part.

The program was intended for each child to stop in and visit the researcher each morning. The opportunity was taken to review homework assigned the previous day, and show evidence of completion. Evidence of completed work was compared to homework assignments listed in assignment notebooks from the previous day. If the homework was completed, students were given a small reward. Students not completing assignments received positive verbal reinforcement to improve.



“Homework Tracker” charts documented completion of homework. A sticker was placed in the day’s box if the work was completed. Notation was made of assignments not completed. (Appendix A)

Each morning students were asked to produce a small form indicating that their parents had participated in tracking homework. An orange form was taped into assignment notebooks each day. It was expected this form be read and signed by a parent each evening. The form asked the parent to check a box if they had reviewed their child’s homework, read with their child that evening, spent time talking to their child about his/her day, or ensured that their child was prepared for the next school day. This important aspect of the program supported the child’s efforts outside of the school building and reassured the student that someone at home cared about homework success. (Appendix A)

Finally, a homework survey was given at the end of the program to both students and parents. The survey determined whether the students felt the program was valid, if the parents found it valid, and assessed the subject’s attitude toward homework. (Appendixes B and C)

## CHAPTER FOUR

### Results and Discussion

The results of this study were desired and expected. The students who actively participated in the program, and received support from their parents, showed significant improvement on homework completion. Those not putting full effort into the program, or did not have support from home, were not as successful as the students receiving support. (Appendix D)

#### *Procedures:*

Data was collected for the 17 school days students participated in the study. Data was charted and analyzed. Prior to the study the group had a collective score of 63% incomplete homework and 37% complete homework. (Appendix E) Results after program completion indicated a great deal of growth. The results showed 78% of the subjects had homework completed and only 22% did not. This is an increase of 41% homework completion. (Appendix F)

On an individual basis, each of the nine students showed improvement in homework completion. (Appendix G) Upon administration of a student t-test using pre and post test scores, the probability of this result, considering the null hypothesis, is 0.000. This test indicates a confidence interval of 95%. The following additional information was obtained from the t-test:

$$t = -8.57$$

Degrees of freedom = 8

Mean = -7.00

Standard Deviation = 2.45

Median = -8.00

Average Absolute Deviation from Median = 1.89

To determine whether or not a parental signature had an impact on student success, the following was noted: The four students showing the highest percentage of improvement in homework completion also had the highest percentage of parental signatures obtained. Of these four students, three had 100% of parental signatures, the fourth had a signature 94% of the time. The student showing the least amount of growth had a parental signature 0% of the time. (Appendix H)

Results of the Student Survey are as follows:

Favorite subject in school:

Social studies (3)

Music (1)

Science (1)

What year in school has been your favorite?

2nd grade (1)

4<sup>th</sup> grade (1)

5<sup>th</sup> grade (2)

6<sup>th</sup> grade (1)

What made the year your favorite?

Teacher (4)

Classes (1)

What year has been your least favorite?

3<sup>rd</sup> grade (2)

4<sup>th</sup> grade (3)

What made it your least favorite?

Teacher (2)

Homework (3)

Did you feel you had a lot of homework your favorite year?

Yes (2)

No (3)

Did you feel you had a lot of homework your least favorite year?

Yes (5)

Do you feel school is easy or hard for you?

Hard (3)

In between (2)

If school is hard for you, what makes it hard?

Homework (5)

How do you feel about homework this year?

It's hard (1)

Too much (4)

What are some positive things going on in your life outside of school?

Seeing grandparents (1)

Trip to Arizona (1)

Dad, friends, family (1)

Basketball (1)

Nothing (1)

What are some negative things going on in your life outside of school?

Nothing (3)

I will miss the ski field trip (1)

Homework (1)

Has the homework check-in time each day with Mrs. Klapperich helped you improve on homework completion? How?

Yes, because I get a reward if it's done (1)

Yes, but my bus gets in late in the mornings (1)

Yes, I get it done more often and feel responsible (1)

Yes, because it reminded me to check over my homework (1)

No (1)

Do you think it helped most by:

- a. having Mrs. Klapperich check in daily (4)
- b. having your parents check in daily (3)
- c. the extra attention made you feel special (0)
- d. some of the above
- e. other (list) (none)

Would you like to continue with this program, or do you think you are on track and ready to try it on your own?

Try it on my own (3)

Continue (1)

No, but I do have somebody at home check (1)

Results of the Parent Survey are as follows:

Tell me, what year in school was your child's favorite?

2<sup>nd</sup> grade (1)

4<sup>th</sup> grade (1)

5<sup>th</sup> grade (2)

5<sup>th</sup> and 6<sup>th</sup> grades (1)

What specifically made that year his/her favorite?

Teacher (4)

Recess (1)

What has been your child's least favorite year?

2<sup>nd</sup> grade (1)

3<sup>rd</sup> grade (1)

4<sup>th</sup> grade (3)

What specifically made it his/her least favorite?

Teacher (3)

Hard to focus (1)

Too much homework (1)

Do you feel school is easy or hard for your child?

Some subjects are easy, struggles with math (1)

Hard (1)

She is very smart and seems to understand. She likes to learn and please (1)

Work is easy, environment is hard (1)

Some are easy, some are hard (1)

If school is hard for your child, what makes it hard?

Math homework (1)

Organization (1)

Not enough time spent on each lesson (1)

Connection with the teacher and lack of an oral approach (1)

How do you feel about homework for your child this year?

Too much (1)

Somewhat overloaded (1)

Lack of student organization (1)

Too much time spent on it at night (1)

More than in the past, but not too bad (1)

What are some positive things in your child's life outside of school now?

Music (1)

Getting involved with family (1)

Better attitude, less frustration (1)  
New home, own bedroom! (1)  
Family and friends (1)

What are some negative things in your child's life outside of school now?  
Too much homework (1)  
New home, she really misses her old one (1)  
Bus ride is difficult (1)  
Her father is having problems (1)  
Parents have trouble balancing jobs and family. Family gets shortchanged. (1)

Has the homework check-in time each day with Mrs. Klapperich helped your child improve on homework completion? How?

Yes (1)  
Yes, it keeps her on track knowing she'll be checked in on (1)  
Yes, Mrs. Klapperich has let her know she's not alone and that she cares and supports her on her journey (1)  
No (1)  
Not sure (1)

Do you think it helped most by:

- a. having Mrs. Klapperich check in daily (3)
- b. having you check daily (1)
- c. the extra attention made your child feel special (1)
- d. some of the above (which ones) ("all" 1)
- e. other (list)

Would you like your child to continue with this program, or do you think your child is on track and ready to try it on his/her own?

It depends on how she feels about it. (1)  
Under reasonable conditions, I've felt his is "on track". Yes, he is ready to continue on his own. (1)  
Yes, I think this time is very helpful! (1)  
Maybe continue for a while yet (1)  
He thinks he's ready to try it on his own. I think he can do it. He is becoming more responsible with his agenda book and homework. (1)

The results of these surveys indicate homework is, and has been, a concerning factor in the lives of these students and their parents. The older the students became, the more likely they were to comment on homework as a negative issue. Homework was connected with negativity in attitudes about school. The survey supported the fact that this research program was of benefit to both parents and students. The

survey indicated that it is important for students that parents check in daily in regard to homework. Outside influences may play a part in the ability to complete homework but was not conclusive with this study.

*Variables:*

The particular attitude or mood of individuals on the day of survey completion could be a factor in how questions were answered. When using a survey as a testing device, the variables are widespread.

The arrival time of busses played a factor in gaining information. Students arriving late had to be found and checked-in with at a different time. The same applied for any tardy or absent students. If students were not found, the data could not be accurately collected and tested.

*Hypothesis Testing:*

A student t-test as well as student and parent surveys were used to test the hypothesis. Data was collected, charted, and graphed.

## CHAPTER FIVE

### Summary and Conclusion

#### *Summary of results:*

All of the students showed some degree of improvement during the study. Homework completion involving these nine students before the study was 37%. Homework completion involving these nine students after the study was 78%. The majority of students and parents surveyed felt that the program was worthwhile and helpful.

#### *Conclusions:*

The researcher feels the program was sound and effective. It did show student growth and set some good habits for the students to continue enforcing. The program not only improved homework completion, it also helped the students know they are cared for and important.

The parental component of this study was vital. Students needed consistency at home and at school. Parents not participating put the study in jeopardy. If the program was not enforced at home, however, I gained insight into more issues that may be pertinent when considering students' poor performance with homework completion. We learn by example; there is no better person to set an example than a parent.

This study has some areas that would be changed if ever initiated again. Having that said, it is still found to be highly effective and valuable. It is this researcher's intention to share the results with colleagues in hopes that it may become a school-



wide initiative. If this program were to be introduced to younger students when they first show problems with homework completion, it may halt a struggle throughout the remainder of a child's educational journey.

*Recommendations:*

If this program was to be initiated again, a few changes would need to be made. The survey questions would be fine-tuned to acquire more useful and accurate information. A better time of day to check in with the students would be found to eliminate problems with late buses or tardy students. The researcher would conduct the program for a longer length of time to ensure the establishment of positive habits and routines for both the students and parents. Colleagues would be questioned if homework completion from students improved in other classes as well. Finally, data would be analyzed to determine whether overall grades improved for the study group.

REFERENCES

Butler, J. (1987). *Homework*. Retrieved November 1, 2003, from Northwest Regional

Educational Laboratory: <http://www.nwrel.org/scpd/sirs/1/cu1.html>

Cooper, H. (2001). Homework for all - in moderation. *Educational Leadership*, 58, .

Maiers, A., & Slagle, J. (2002). *The teacher-parent partnership making the most of the middle years*. Carthage, IL: Rigby Best Teachers Press.

Mathews, J. (2003, October 1). Quite piling on the homework. *The Washington Post*.

Retrieved November 6, 2003, from [www.washingtonpost.com](http://www.washingtonpost.com)

Perkins-Gough, D. (2003). Special report/ do after school programs help students succeed? *Educational Leadership*, 61, 88.

Strauss, V. (2003, October 28). You sick of homework? that complaint is so old school. *The Washington Post*. Retrieved , November 6, 2003, from <http://www.washingtonpost.com/>

(1998). *Conclusion*. Retrieved Nov. 1, 2003, from National PTA:

<http://www.ed.gov/pubs/HelpingStudents/conclusion.html>

## Appendix A

<b>Homework TRACKER</b>					
Week of:	Monday	Tuesday	Wednesday	Thursday	Friday
_____ to _____					
_____ to _____					
_____ to _____					
_____ to _____					

Use this sheet to keep track of completed homework. Check off one square each night that all homework is completed.

<b>Homework Checklist</b> <i>(to be returned daily by the student)</i>	
<input type="checkbox"/>	I reviewed my child's homework this evening.
<input type="checkbox"/>	I read with my child this evening.
<input type="checkbox"/>	I spent time talking to my child about his or her day at school.
<input type="checkbox"/>	I made sure that my child was prepared for tomorrow's school day.
Student: _____	
Parent/Guardian: _____	

Appendix B

# Homework Survey

Name: \_\_\_\_\_

Age: \_\_\_\_\_

Favorite subject in school: \_\_\_\_\_

1. Tell me what year in school was your favorite.
2. What, specifically, made that year your favorite?
3. What year has been your least favorite?
4. What specifically made it your least favorite?
5. Did you feel you had a lot of homework in your favorite year?
6. Did you feel you had a lot of homework in your least favorite year?

7. Do you feel school is easy or hard for you?

8. If school is hard for you, what makes it hard?

9. How do you feel about homework this year?

10. What's going on in your life outside of school right now?

Positive things:

Negative things:

11. Has the homework check-in time each day with Mrs. Klapperich helped you improve on homework completion? How?

12. Do you think it helped most by:

- a. having Mrs. Klapperich check in daily
- b. having your parents check in daily
- c. the extra attention made you feel special

- d. some of the above (which ones)
- e. other (list)

13. Would you like to continue with this program, or do you think you are on track and ready to try it on your own?

# Parent Homework Survey

Child's Name: \_\_\_\_\_

Age: \_\_\_\_\_

Favorite subject in school: \_\_\_\_\_

14. Tell me what year in school was your child's favorite.

15. What, specifically, made that year his/her favorite?

16. What year has been your child's least favorite?

17. What specifically made it your child's least favorite?

18. Do you feel school is easy or hard for your child?

19. If school is hard for your child, what makes it hard?

20. How do you feel about homework for your child this year?

21. What's going on in your child's life outside of school right now?

Positive things:

Negative things:

22. Has the homework check-in time each day with Mrs. Klapperich helped your child improve on homework completion? How?

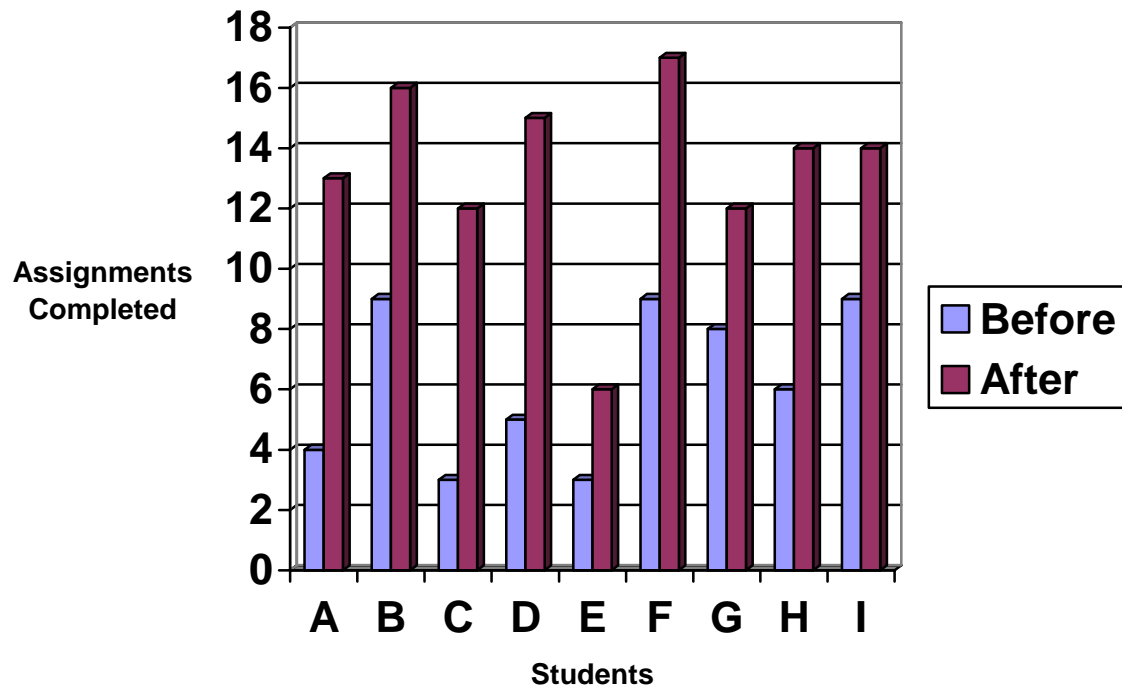
23. Do you think it helped most by:

- a. having Mrs. Klapperich check in daily
- b. having you check in daily
- c. the extra attention made your child feel special
- d. some of the above (which ones)
- e. other (list)

24. Would you like your child to continue with this program, or do you think your child is on track and ready to try it on his/her own?

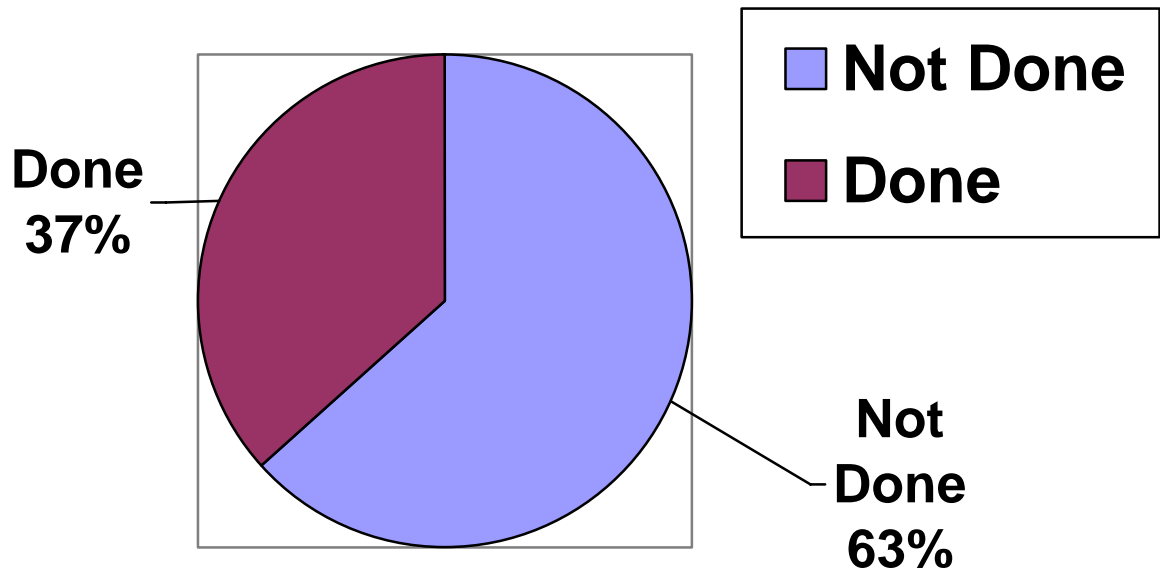


## Appendix D

**Homework Completion**

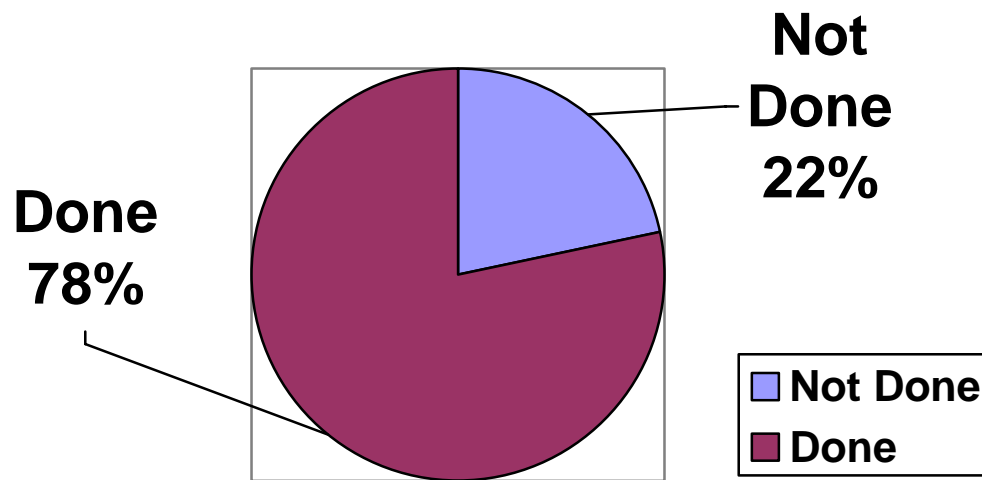
Appendix E

## Homework Completion Before Study



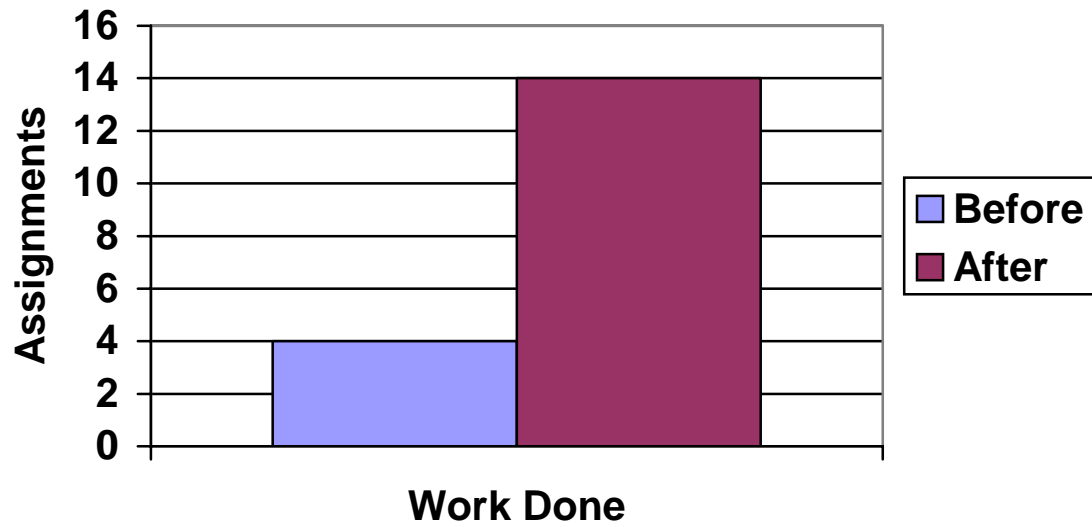
Appendix F

# Homework Completion After Study

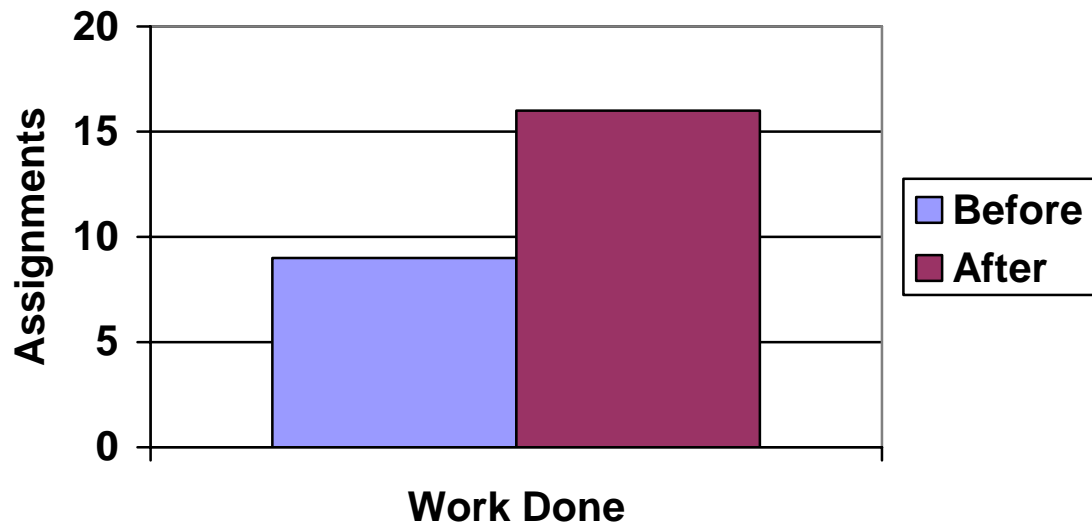


Appendix G

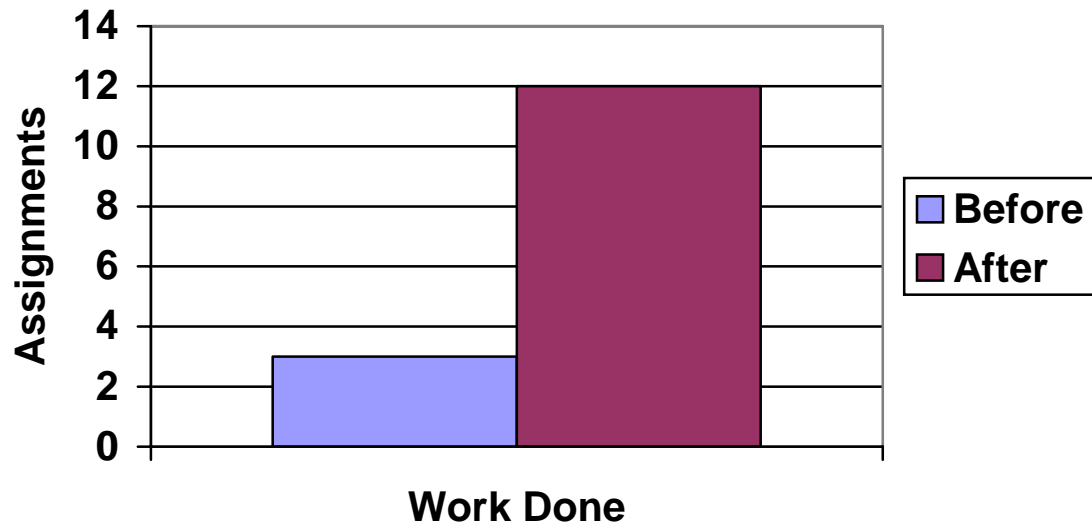
**Student A**



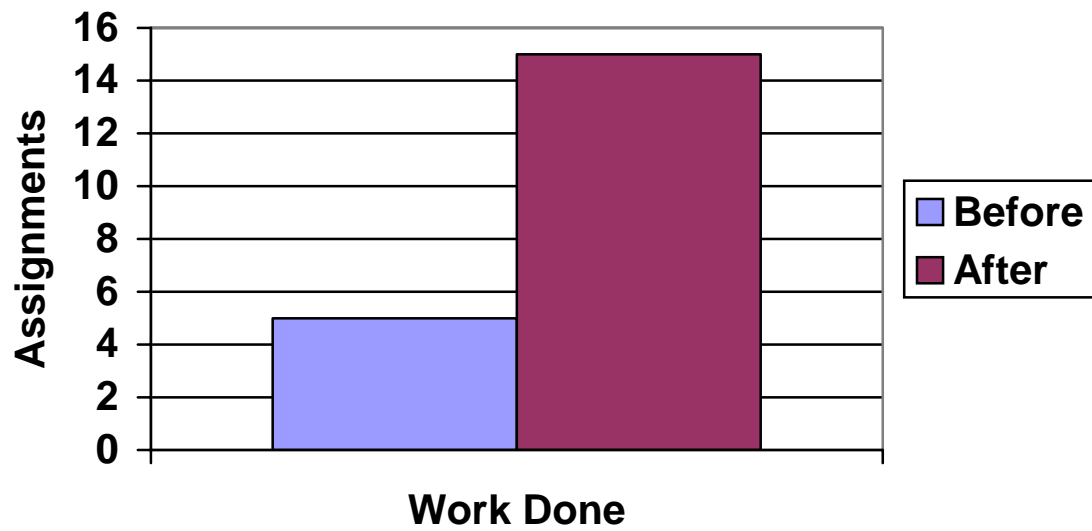
**Student B**



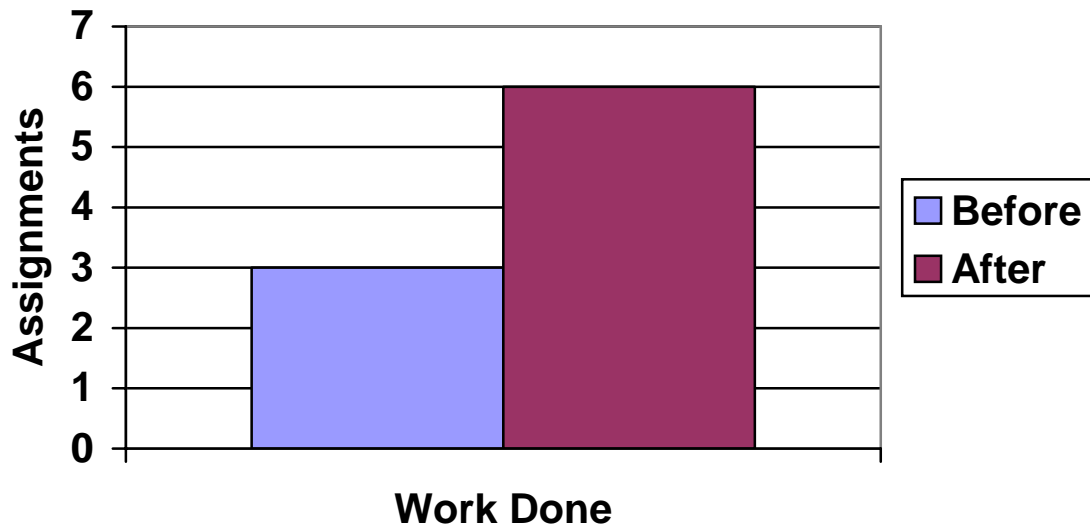
## Student C



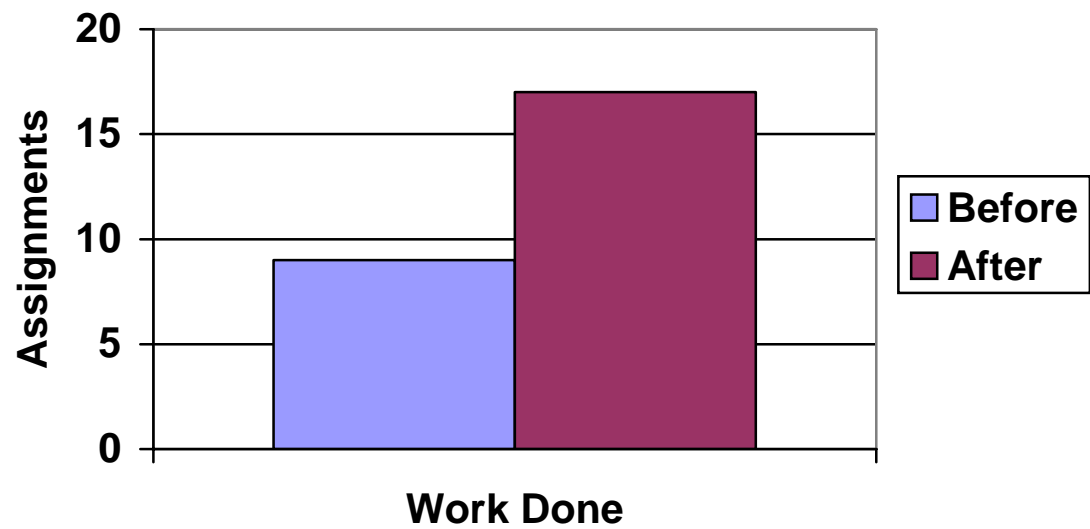
## Student D



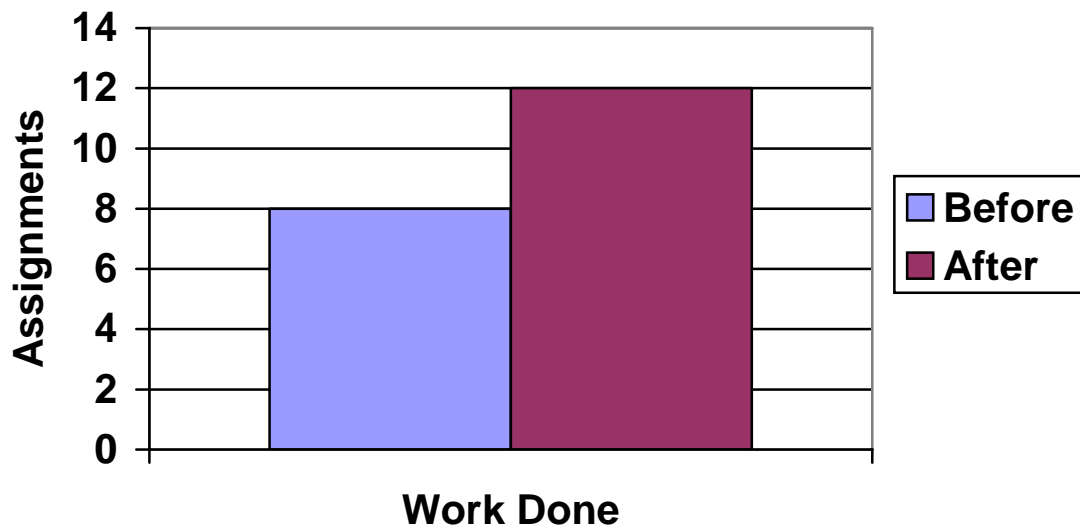
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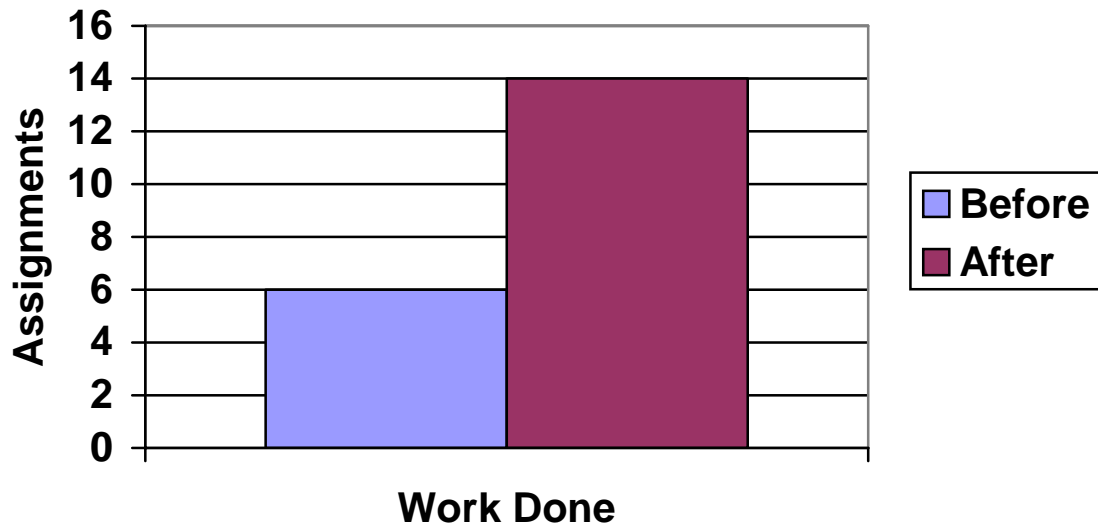
## Student F



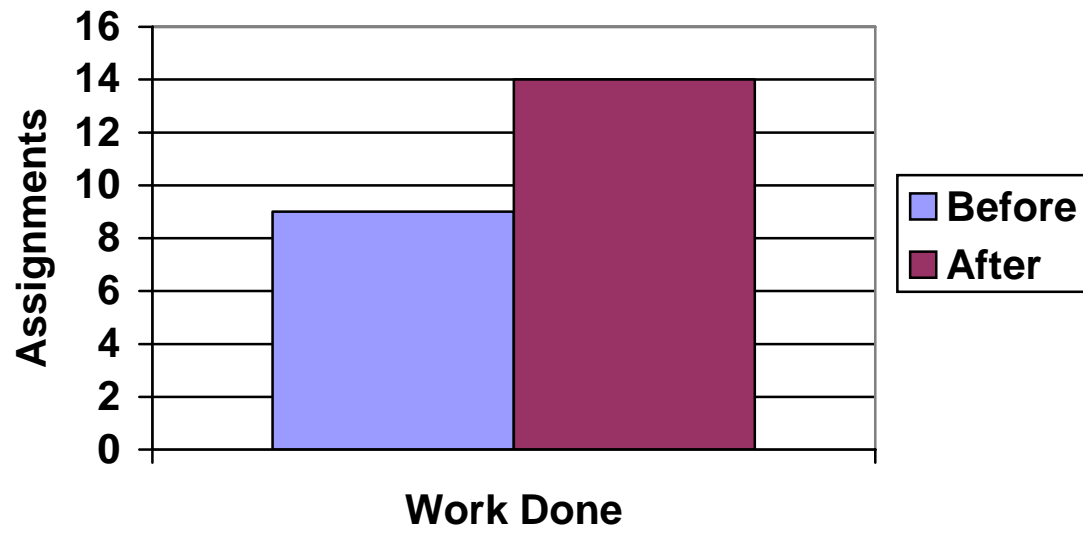
## Student G



## Student H



## Student I





## Appendix H

Student	Percent Improvement	Percent Parental Signature Obtained
A	52	100
B	41	12
C	53	94
D	59	100
E	17	0
F	47	100
G	24	71
H	47	29
I	29	100

**In Order of Improvement**

Student	Percent Improvement	Percent Parental Signature Obtained
D	59	100
C	53	94
A	52	100
F	47	100
H	47	29
B	41	12
I	29	100
G	24	71
E	17	0

DOES THE FORMAT OF A TEST INCREASE OR DECREASE THE  
AVERAGE PERFORMANCE LEVEL ACHIEVED BY STUDENTS?

By

JANELLE ELIZABETH LUND

B.S. Winona State University, 1998

A capstone submitted to the faculty of the Graduate School of Winona State University in  
partial fulfillment of the requirement for the degree of

Master of Science in Education

Department of Education

December 2004

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This capstone entitled:

Does the Format of a Test Increase or Decrease the Average Performance

Level Achieved by Students?

Written by Janelle Elizabeth Lund

Has been approved for Winona State Department of Education by:

_____ Erin Foster	_____ Heather Styve
_____ Darren Thompson	_____ Molly Thorson
_____ Elizabeth Winters Resource Cons.	_____ Cheryl Moertel,
_____ Dr. Thomas Sherman, Capstone Advisor	_____ Date

The signatories have examined the final copy of the capstone, and we find that both the content and the form meet acceptable presentation standards of scholarly work in the above-mentioned discipline.

## ACKNOWLEDGEMENTS

I would like to thank my fiancé', David, for encouraging me to continue when all I wanted to do was stop. The help that David provided me with by taking care of my home and family, along with all of his support and encouragement, provided me with the strength and time that I needed to complete this degree. Thank you David, for being such a wonderful support system for me!

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Lund, Janelle Elizabeth (M.S., Education)

Does the Format of a Test Increase or Decrease the Average Performance Level

Achieved by Students?

Capstone directed by Dr. Thomas Sherman

## ABSTRACT



During the second semester of the 2003-2004 school year a study was conducted to determine the average percentage results of two different test answer formats. This study explored whether test formats affected the average performance level achieved by students. Each time students were tested throughout one semester, all students in each class received the same test question booklet. Half of the students, randomly selected in each class, were tested with scantron answer sheets (multiple choice fill in the blank answer sheets), while the other half of each class of students tested were able to choose answers directly on their test booklets. Average percentage test results were calculated for each class and for each test answer format. Percentage results were compared using a paired data student t-test. A significant difference was found between test answer formats with students using the test booklet answer formats achieving two percent higher than the scantron answer sheet format. When scores were compared by learner levels the results were even more significant, with low level learners achieving four percent higher on test booklets, average level learners achieving one percent higher on test booklets, and high level learners achieving the same percentage results on each test answer format.

## I. INTRODUCTION

The history of public education is full of examples of controversy. It has been more than two hundred years since the inception of public education, and yet education is still in a state of upheaval and instability (Bracey, 1997).

Two years ago public education was introduced to a concept labeled “No Child Left Behind”, now referred to as NCLB. It has become a 1,000 page law, and public education history is repeating itself yet again, as NCLB hurls public education into controversy. Many feel that there are increasingly visible flaws in the NCLB law, and the growing bi-partisan criticisms of its provisions support the view that the law could do more harm than good ([www.ed.gov/offices/OESE/esea/index.html](http://www.ed.gov/offices/OESE/esea/index.html), 2004).

A major premise behind NCLB is high stakes assessments. High stakes assessments are assessments that are connected to important consequences such as final grades, promotion or graduation, college admittance, or employment. High stakes assessments are summative assessments, and are administered in the form of standardized tests (Educators in Connecticut’s Pomperaug Regional School District 15, 1996).

Less than one year ago educators in Minnesota were basing the success of their students on performance-based learning and assessments in line with the state implemented graduation standards. Performance-based learning and assessment is an approach to teaching and learning that embeds performance tasks within day-to-day instruction and assessments (Educators in Connecticut's Pomperaug Regional School District 15, 1996). The state graduation standards were the results of twelve years of work, and cost over 15 million dollars.

Teachers in many states besides Minnesota were also required to implement learning plans based on performance assessments. Students produced projects in a variety of forms, which demonstrated their mastery of the content material they had learned. Amazingly, though the graduation standards took years to build and implement, they were thrown out in a matter of weeks. Meanwhile "No Child Left Behind" had been adopted by the President of the United States, and though many states nation wide were using performance based assessments, they now faced another shift in education, to standardized testing graduation requirements.

Standardized tests are assessments with a set of consistent procedures for administering and scoring. The goal of standardization is to ensure that all students are assessed under uniform conditions so that their results are comparable and not influenced by differing conditions (Educators in Connecticut's Pomperaug Regional School District 15, 1996). By definition the goal of standardization is well suited to educational measurement of the success of students. Yet, by its very definition, "to ensure that all students are assessed under uniform conditions", standardization is an impossibility. Though the public system of education can strive to provide all students with a minimum of adequate teachers and school buildings, keeping some basic uniformity in education, there are still infinite variables from one student to another in their home lives, experiences, and general backgrounds. Beginning with the very basic necessities of our youngest learners, until the millions of pre-secondary students in the United States all have equal and adequate rest and nutrition, standardization is impossible. Rest and nutrition are only two of thousands of independent variables present in the lives of this nation's young people. Variables such as: family involvement and support level of a student, stability and quality of the home environment, time living in and attending school in the United States, first language spoken at home, amount of education the parents of a student have had, amount of help in the form of tutoring available to a student, and many more influences that each student is exposed to on a daily basis all affect learning and testing. Even meeting the goal of providing a student with adequate teachers and school buildings provides a wide variety of conditions that students are exposed to. We must face the fact that standardization is currently impossible.

If standardization is impossible, is standardized testing possible? Standardized tests are a one-size-fits-all tool. Until standardization is possible, the one-size-fits-all tool will not fix the machine we call public education. Just as with any machine that is in need of repair, only specified tools are used to make those repairs. How can standardized tests be the miracle tool that fixes all that remains in need of fixing, in a system that has not worked smoothly as a running machine since its conception?

Standardized tests are multiple-choice tests, for which the answers are filled in on a "bubble sheet" called a scantron. When a scantron test is given, it is assumed that a student has experience and proficiency with this type of testing. Due to the fact that immigrant students who are high school age rarely have previous experience with the scantron testing format before coming to the United States, and that student learning disabilities such as dyslexia make transference from a test booklet to a scantron answer sheet very difficult, and that standardized testing is impossible in the first place, there was need for a study to be conducted which would compare student test results from two testing formats: test booklets versus scantron answer sheets.

A study was conducted to address the question: does the format of a test increase or decrease the average performance level achieved by students?

The purpose of this study was to compile data that would either support the scantron sheet multiple-choice standardized testing format of NCLB, or refute it. It was believed that student performance would be influenced by the format of tests taken, and that scores would be lower for students taking scantron sheet multiple-choice tests.

#### Definition of Terms

- NCLB Act: the "No Child Left Behind" law of 2002.

- Scantron: a multiple choice, fill in the blank answer sheet used by students to select test answers.
- Standardized tests: annual tests taken by all public school students in reading and math.
- Norm-referenced tests: achievement tests in which half of the students taking the test should be below average, and half of the students taking the test should be above average. This is how the “norm” or a norm-referenced test is defined.
- NRT’s: norm-referenced tests.
- ELL’s: English language learners.
- AYP: adequate yearly progress. Under NCLB, schools must meet target AYP goals or they are placed on a “Needs Improvement” list.

Independent variables in this study were numerous, but limited by controlled testing and environmental consistency. Classroom conditions changed throughout the study only in lighting shifts, which occur naturally with seasonal photoperiod changes.

Ages of the student subjects ranged from 14-18, and therefore testing abilities may have been different due to higher levels of experience and proficiency in older test subjects. English language learner (E.L.L.) students were present in several classes used in the study, and some of these E.L.L. students had extremely limited experience and proficiency not only in taking tests, but also in attending a formal public school.

To follow proper scientific methods, each time students were tested the testing formats were given to student subjects randomly, and therefore some students may have used one of the test answer formats repeatedly, rather than switching formats every other test.

There was also a difference in intelligent levels between test subjects, as they were in three different class levels, and placement in those classes was directly related to the learner levels of the students. Not only was there a difference in intelligence levels, but there was also a difference in motivation between test subjects. Some of the high level learners tested were very competitive, and grades achieved on tests were significantly important to many of those subjects. Low level learners often expressed complacency and disinterest in their test scores, as testing and grades were not significantly important to them.

Content knowledge for each test was different, and students may have had more background or previous knowledge in some content areas, or just a deeper understanding of some of the concepts they were being tested on than others.

Scheduling also created independent variables. Early morning test takers and students tested close to their scheduled lunch period consistently achieved lower average test percentage scores. Subjects may have been more tired and hungry at certain times of the day, and therefore more easily distracted.

Due to the length of the study several students left the test subject group, and several students joined the test subject group. This variable may have caused slight inconsistencies in the data gathered. Test subjects used for the entire length of the study were not always available on testing days due to absence, and therefore may have made up tests missed in a different environment than the regular classroom normally used.

The dependent variables used in this study were the test answer formats. There were two test answer formats. Half of the students wrote their test answers directly on their test booklets, while half of the students wrote their answers on a fill in the blank “scantron” (see Appendix B) answer sheet. All students were given the same test booklets, thus limiting the dependent variables to only the two test answer formats.

There were several control variables. As mentioned under dependent variables, the student subjects of the study were all given the same test question booklets for each test given. Each test given during the semester was used to gather data for the study, so the manner in which students were tested was kept consistent. The same directions prior to testing, the same materials needed by students to take each test, the same teacher proctoring each test, the same school building was used during each test, and the same classroom was used during each test. Students were asked after the third test of each quarter during the study semester if they had used each of the test answer formats to ensure that each student had used both formats at some time during the study.

Even though the same teacher proctored each test, there may have been inadvertent differences in the administration of those tests, even though efforts were made to maintain as much consistency as possible with testing procedures.

#### Limitations

1. Time: it was time consuming to write different test formats, and score different test formats.
2. Students: students were not always willing to take a scantron test format.
3. Consistency: tests had to be written to have identical questions whether they would be answered directly on the test booklet, or on a scantron answer sheet.
4. Long term variables: when completing a test over an entire semester there may be some students who leave the sample group, and some students who join the sample group.
5. Sample size: it was not always possible to test exactly half of a class on test booklets and half of a class on scantron answer sheets due to absences and make-up needs.

#### Delimitations

1. Ability range: at risk, ELL, learning disabled, and low level learners, average level learners, and honors high level learners were all available for testing during the length of the study.
2. Sample size: sample size was large for the study, and averaged over 150 students for each test.
3. Interest: students were informed of the study procedures (due to their observance of two testing formats) and seemed very interested in the outcome of the study.
4. Data relevance: this study resulted in data that is relevant to teachers when considering assessment format for their students, and in knowing that students need training to take scantron tests effectively and proficiently.
5. Data relevance: this study resulted in data that is relevant to anyone trying to evaluate standardized testing format.
6. Quantifiable data: a statistical quantifiable set of data was obtained, which provided a significant difference in the scores of students, depending on the testing format they used.

## II. REVIEW OF RELATED LITERATURE

The debate about how best to teach and assess our students has been going on as long as we have been publicly educating this nation. There is hardly a day that goes by without our daily newspapers and news broadcasts headlining the current and largest issue in education: NCLB.

On January 8, 2002 President Bush signed into law NCLB, the *No Child Left Behind Act of 2001*. The Act, which in 1,000 pages embodies his education reform plan sent to Congress on January 23, 2001 is the most sweeping reform of the Elementary and Secondary Education Act (ESEA) since ESEA was enacted in 1965. NCLB “redefines” the federal role in K-12 education, and was written to help close the achievement gap between disadvantaged and minority students and their peers. NCLB is based on four basic principles: stronger accountability for results, increased flexibility and local control, parental options and responsibility, and an emphasis on teaching methods that have been proven to work ([www.ed.gov/offices/OESE/esea/index.html](http://www.ed.gov/offices/OESE/esea/index.html), 2004).

“Education Reform 201” is a presentation courtesy of the House Education and the Workforce Committee Majority Staff, which was written in 2002 as a downloadable presentation to be given by Senators across the nation. In it, NCLB is broken down and addressed by each of its four components.

Component one is the need for accountability of results. According to Education Reform 201 there have been hundreds of billions in Federal monies spent since 1965 to close the achievement gap. The achievement gap that exists in America is defined as the gap between disadvantaged students, and their more affluent peers. The focus of this existing gap is that nearly two-thirds of African-American children in the fourth grade cannot read at a basic level. U.S. students also lag behind their international peers in key subjects. The final focus of

component one by Education Reform 201 is that Federal education policy lacks focus and has never insisted on results. On August 1, 2001 President George W. Bush addressed the nation stating “Accountability is an exercise in hope. When we raise academic standards, children raise their academic sights. When children are regularly tested, teachers know where and how to improve. When scores are known to parents, parents are empowered to push for change. When accountability for our schools is real, the results for our children are real” ([www.ed.gov/offices/OESE/esea/index.html](http://www.ed.gov/offices/OESE/esea/index.html), 2004). Bush’s statements correlate with Reform 201, which states that in other words, if we don’t test we don’t know when children are falling behind, and if we don’t test every year a child can lose precious time that cannot be replaced. Reform 201 also states under component one that qualified teachers are essential to improving education.

In order to meet the accountability component, the NCLB Act calls for annual testing of all public school students in reading and math, a quality teacher in every public school classroom, annual report cards on school performance for parents, voters and taxpayers, and ensuring that every child reads by the 3<sup>rd</sup> grade ([www.ed.gov/offices/OESE/esea/index.html](http://www.ed.gov/offices/OESE/esea/index.html), 2004).

The goal is 100 percent proficiency for all students in 12 years (by the 2013-2014 school year), as anything less means students will be left behind. Accountability is not achievable, however, without the other three components.

Under the NCLB Act, component two, flexibility and local control, will be accounted for by including provisions designed to provide greater fairness for rural school districts by giving local school officials greater say in how federal

funds are used. This will provide rural school districts with increased flexibility and funding to enhance academic achievement.

In addressing component three, resources for reform, President Bush and Congress have: provided an increase in Title I aid to local schools (from \$8.6 billion in Fiscal Year 2002 to \$10.4 billion in 2003), provided a 35 percent increase in teacher quality aid to state and local schools, tripled funding for reading programs, supported charter schools, and increased special education funding by \$1.3 billion ([www.ed.gov/offices/OESE/esea/index.html](http://www.ed.gov/offices/OESE/esea/index.html), 2004).

Under component four, parental options and responsibility, if schools do not meet the expectations of accountability, parents have the right to transfer their children to better-achieving schools. Parents will further have the right to obtain supplemental education services such as tutoring and summer school for their children. Perhaps one of the most interesting aspects of this fourth component, is the expected involvement of parents. Reform 201 states that, in order for education reform to succeed, parents must be full partners in their children's education. Parents, teachers, and school administrators hold the key to our schools' success. Parents need to instill values and discipline at home so their children can succeed in school. As President Bush stated in his address in August 2001, "Good education starts in the living rooms of the citizens of this country. It starts with a mom or dad saying, turn off the TV and practice reading. It means, get rid of the tube and get into the books. That's where it starts" ([www.ed.gov/offices/OESE/esea/index.html](http://www.ed.gov/offices/OESE/esea/index.html), 2004).

The four components of the NCLB Act can be summarized by stating: we need accountability and will meet this need by using standardized testing on our students. Flexibility and local control will increase as individual districts have more say in funding allocations. Resources for these reforms will include an increase in special education funds. And finally, parents options and responsibility will allow parents to move their children to successful schools, but they are expected to be involved in their childrens' education.

The four components, and the action plans being implemented to meet them, bring up many questions. Perhaps the greatest controversy over NCLB involve its' first and most quantifiable component: accountability, and the action plan chosen to ensure it, testing. There are many facets to consider when using a test. Who is going to be writing the test? And an even more basic question: what exactly is a test? A test, in plain, ordinary words, is a method of measuring a person's ability or knowledge in a given area. A test is first a *method*. There is a set of techniques, procedures, and test items that constitute an instrument of some sort. The instrument, or test, may be quite intuitive and informal, as in the case of judging offhand someone's authenticity or pronunciation. Or it may be quite explicit and structured, as in a multiple-choice technique in which correct responses have already been specified by some "objective" means (Brown, 1994).

By basing a child's educational accomplishments on testing, tests become very high stakes. High stakes assessments are summative assessments, and will be administered in the form of standardized tests (Educators in Connecticut's Pomperaug Regional School District 15, 1996). Standardized tests are multiple choice tests, for which the answers are filled in on a "bubble sheet" called a scantron. There is a list of answers to choose from, and the student fills in the appropriate "bubble" or open circle to correlate with the answer chosen. This is a qualitative, norm-referenced form of testing, in which it is assumed that a student taking this test has experience and proficiency with this type of testing. But, what about E.L.L. learners who are immigrants and may be experiencing their first year of school at high school level? These students are expected to perform to the same levels as American born students!

According to Kohn (2004), Robert Glaser coined the term "norm-referenced test" (NRT) many years ago to refer to tests that "provide little or no information about...what the individual can do. They identify one student as more or less proficient than another, but do not tell how proficient either of them is with respect to the subject matter tasks involved" (Kohn, 2000, 4).

The most common norm-referenced tests are the Iowa and Comprehensive Tests of Basic Skills (ITBS and CTBS), and the Stanford, Metropolitan, and California Achievement Tests (SAT, MAT, and CAT). In contrast to a test that's "criterion-referenced," which compares each individual to a set standard, one that's norm-referenced compares each individual to everyone else (Kohn, 2000). Estimates of how many times students in the United States sit down to take these tests every year vary from 40 million to 400 million. No other nation in the world does anything like this to its children. Yet despite requirements for some students to take several standardized tests a year, and although even young children are routinely subjected to these tests (even in view of appeals by experts to stop), the trend, incredibly, is for even more testing (Kohn, 1999).

America was founded as a melting pot for people from all over the world. America continues to be a melting pot, with each state experiencing a wide variety of numbers of immigrants from any number of foreign countries every year (Minnesota Minority Education Partnership, Inc., 2004). In Minnesota English Language Learners (ELLs) constitute over 6% of public school enrollment in 2000-2003. 45% of public school teachers in Minnesota taught ELLs



during the 1999-2000 school year, and that number is much higher now. These numbers cannot be ignored or absorbed by standardized testing. “As long as tests do not at least sample in equal degree a state of saturation (experiences and activities) that is equal for the “norm children” and the particular bilingual child it cannot be assumed that the test is a valid one for the child (Minnesota Minority Education Partnership, Inc., 2004). In the case of an ELL child, they are expected to meet the same standards as a child born in America, based on an American norm-referenced standardized test. Language and cultural differences are showing us how truly unrealistic this scenario is proving to be.

For achievement tests such as an NRT, half of the children, by definition, should be below average, and half of the children should be above average. This is how the “norm” of a norm-referenced test is defined. But studies have found that far more than 50 percent of students taking standardized tests are above average (Bracey, 1997). Even if the top 10 percent did a lot better than the bottom 10 percent, that still doesn’t tell us how many questions they got right (Kohn, 2000). The bottom line is that norm-referenced testing, in other words standardized testing, isn’t made for telling us what a student knows, it is made for showing us what a student doesn’t know. This testing format also ignores immigrant ELL learners with little or no experience taking this type of test, and in addition ignores the fact that there are students who are learning disabled, emotionally disabled, physically disabled, or may face any number of other challenges which prevent them from accurately and/or proficiently transferring information to a multiple choice scantron answer sheet while testing.

### III. METHODS AND PROCEDURES

Testing methods and procedures for this study were consistent with those needed to follow scientific method, as this was a scientific experiment in which a problem was identified, research was conducted, a hypothesis was formulated, an experiment was conducted to test the hypothesis, and a conclusion was deduced based on the data and its' analysis.

During the end of the first semester of the 2003-2004 school year two practice tests were given to students in which half of the students were given one format for recording their test answers on, while the other half of the students were given a different format for recording their test answers on. Initially, the first student on the right in the first row of students was given one test answer format, and then the next student was given the other test answer format, and this pattern of every other student getting every other format continued until all students had one format for answering or the other. For the next test the first student on the right in the first row was given a different answer format than on the first practice test, and the same pattern of every other student receiving a different format was used. It was discovered that due to absences some students were receiving the same format for the second test, as they did for the first test, and that it would be very difficult to keep records to indicate which students received which test format type. It was decided that for the actual study true scientific method would be used, and therefore test answer formats would be distributed randomly. During the study, a letter "A" was written on half of the test booklets, and a letter "B" was written on the other half of the test booklets.

The test booklets were then “shuffled”. At test time, a coin was tossed, and a randomly chosen student either called out “A” or “B”, for heads. Heads meant test booklet answer format, and tails meant scantron multiple choice answer sheet format. Whichever resulted from the flip was the format used for “A” or “B” test booklets. Students then picked test booklets randomly from the teachers’ hands (without being able to see the letter A or B), as they were shuffled within a pile, much like a person draws a playing card from the hands of someone asking them to pick one for a card trick. This was the method chosen for test distribution throughout the study, as it was a truly random method for distributing test answer formats to students.

Approximately 155 high school students were used to conduct this study, with student grade levels ranging from 9<sup>th</sup>-12<sup>th</sup> grade. The subjects were all students taught by one Biology teacher during one semester. The student subjects were in five separate classes and three separate ability levels. There were three levels of learners available for the study: low, average, and high level learners.

For each test given during second semester of the 2003-2004 school year, half of the students randomly received test booklets on which they could write their answers, while half of the students received test booklets which were accompanied by a scantron sheet (see Appendix A.) on which they had to fill in the blank that corresponded to their chosen answer for each test question. All students received test booklets with identical questions, with the only variable being the formats on which they wrote their answers.

Average total point and percentage results were compiled and

compared for each test, and average total point and percentage results were compiled and compared for low level, average level, and high level classes. Average total point and percentage results were also compiled and compared for all tests cumulatively. Finally, a statistical paired data student t-test was applied to the aforementioned average percentage results for each level of class, and for all average percentage test scores combined. The student t-test established whether there was a significant difference between average percentage scores achieved on test booklets, versus those achieved on scantron fill in the blank answer sheets.

Validity of study methods and procedures was initially accomplished by maintaining consistency of testing procedures, and by maintaining clarity of instructions to student subjects. Validity was also established by directly addressing the study problem/question with the study methods and procedures. A large sample size of students, and a large number of tests were given throughout the study. The hypothesis was directly tested, and data was obtained which directly related to supporting or refuting it. Finally, validity was further established by applying a student paired data t-test to statistically determine whether there was a significant difference in the data.

Reliability measures in this study included using methods and procedures that are easily repeatable. Data obtained throughout the course of this study was consistently measured and quantified, ensuring clear and conclusive results that were directly related to the study problem and hypothesis. Testing methods for this study were objective, therefore limiting

variables, and making the testing methods even more repeatable. Based on compiling a large amount of quantifiable data, the results provided a logical and concise conclusion.

Procedures used in this study were effective, followed scientific method protocol, are easily repeatable, and provided data which fully supported the hypothesis that student performance would be influenced by the format of tests taken, and that scores would be lower for students taking scantron tests.

Testing format is critical in properly being able to assess a students' progress in learning. The question is not whether students' need to be tested, but rather how they should be tested. To be able to assess what students know, rather than what students don't know, a scantron multiple choice fill in the blank testing format should not be used. Low level learners are those that make up the lower groups in "the gap", and they are not successful with this testing format. Using this testing format may actually prevent us from closing the gap

#### IV. RESULTS AND DISCUSSION

The results described in the following three graphs were obtained from three different levels of learners (three different class levels), and show the percentage test performance differences for compiled test results for one semester for each test format and learner level.

Figure 1.

Individual Average Test Percentage Score Comparisons for Low Level Learners

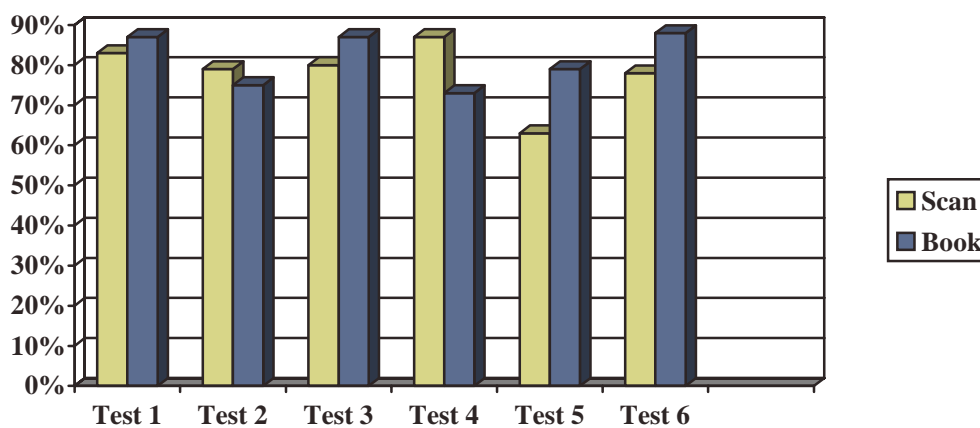


Figure 2.

Individual Average Test Percentage Score Comparisons for Average Learners

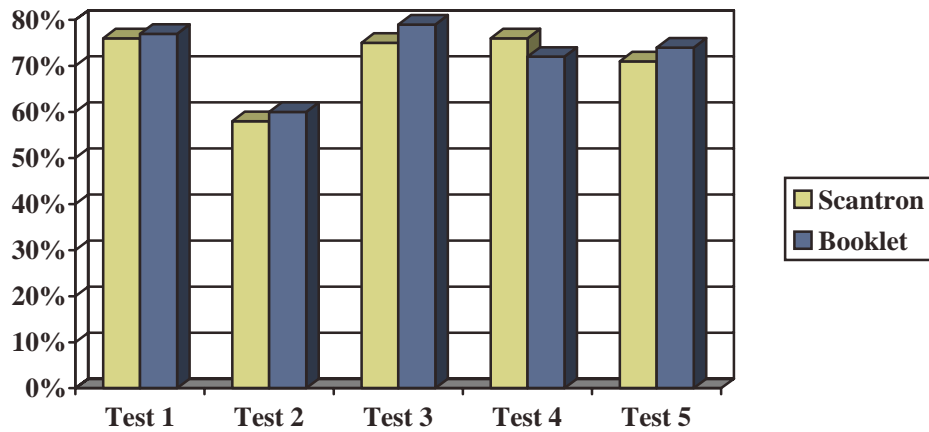
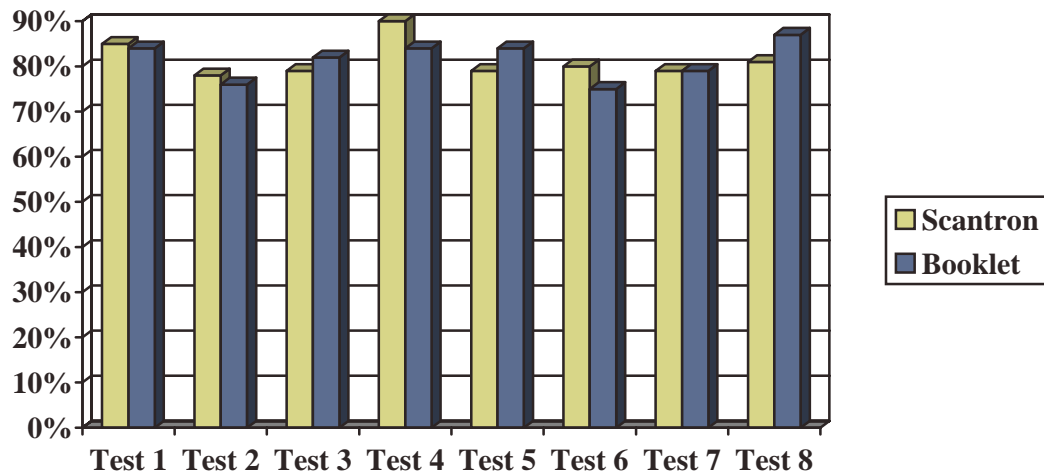


Figure 3.

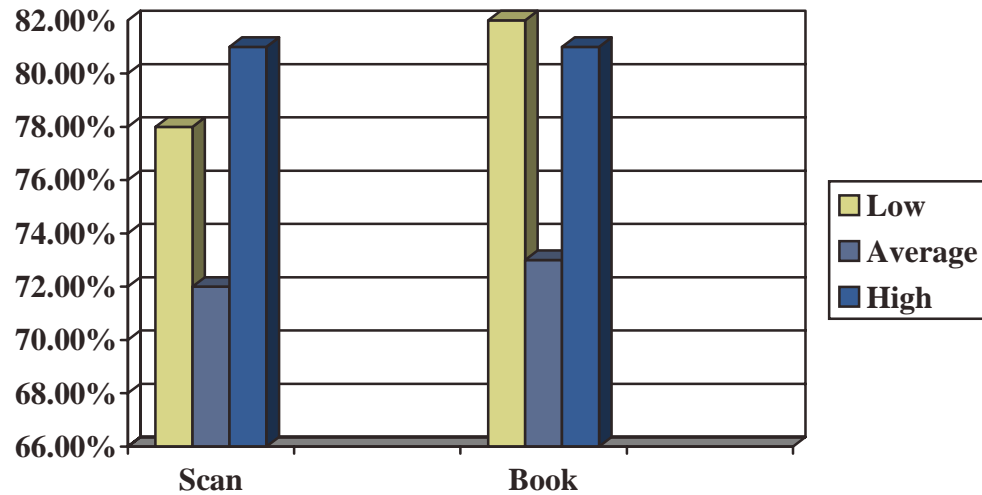
Individual Average Test Percentage Score Comparisons for High Level Learners



The following graph (Figure 4.) reflects the average percentage score differences obtained for each level of class for scantron vs. test booklet answer formats.

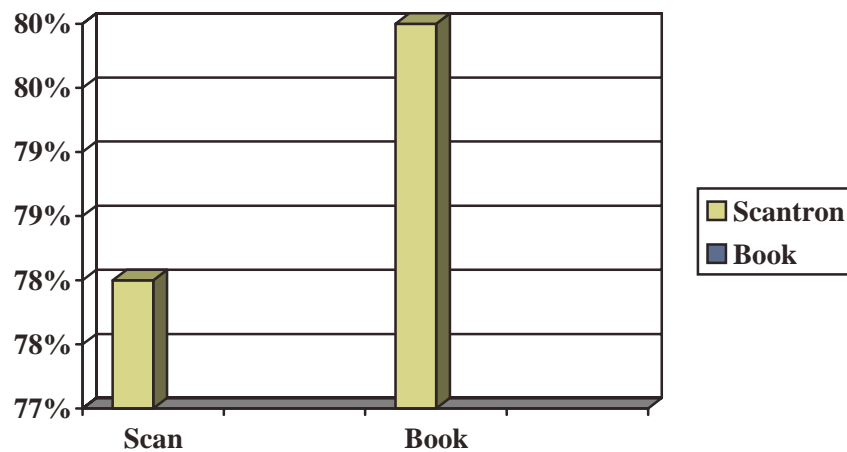
Figure 4.

## Class Level Average Test Percentage Score Comparisons



The final graph (Figure 5.) reflects the total average percentage score differences obtained for all classes for scantron vs. test booklet answer formats.

Figure 5.  
Total Average Test Percentage Score Comparisons





Results can be summarized for each class level tested, and for all tests cumulatively, in the following two tables. The first table (Table 1.) shows the percentage scores achieved by students on scantrons vs. test booklet answer formats for each class level, and cumulatively. Table 2. shows the percentage differences between each class level and cumulatively.

Table 1.  
Summary of Test Booklet Average Percentage Scores Versus  
Scantron Average Percentage Scores

Learner Levels	Average Percentage Score For Test Booklets	Average Percentage Score For Scantrons
Low Level	82%	78%
Average Level	73%	72%
High Level	81%	81%
All Tests Cumulative	80%	78%

A paired Student's t-test was applied to each of the three levels of result percentages. A 95% confidence interval was established for all three levels, with  $t=-0.919$  for the low level learner results, and the probability of this result,

assuming the null hypothesis, was 0.400. For the average level learners,  $t=-0.718$  and the probability of this result, assuming the null hypothesis, was 0.512. For the high level learners  $t=0.541E-01$ , and the probability of this result assuming the null hypothesis, was 0.958. According to these t-test results, there was a significant statistical difference established between the test format results for the low, and average level learners. A paired Student's t-test was also applied to each of the test format percentages cumulatively. A 95% confidence interval was established, with  $t=-0.902$ , and the probability of this result, assuming the null hypothesis, was 0.379. According to these t-test results, there was a significant statistical difference established between the test format results for the scantron test format, versus the test booklet format. (See Appendix B, Tables B1.-B4.)

Table 2.  
Summary of Test Booklet Average Percentage Differences Versus  
Scantron Average Percentage Differences

Learner Levels	Difference Between Scores on Test Booklets vs. Scantrons
Low Level	4% Higher on Test Booklets
Average Level	1% Higher on Test Booklets
High Level	0% Difference
All Tests Cumulatively	2% Higher on Test Booklets

NCLB requires all states, including Minnesota, to establish state academic standards and a state testing system that meets federal requirements. Each year schools are required to meet annual yearly progress (AYP), which means that there must be a certain percentage increase on state test scores in reading, math, and science. The percentage increase varies from year to year, but is calculated to “raise the bar”, so that by the 2013-2014 school year, 100% of students in every subgroup must be proficient in reading, math, and science. These measurements must be reported for students in the following subgroups:

- economically disadvantaged students
- students from major ethnic and racial groups
- students with disabilities
- students with limited English proficiency

In Minnesota the state test that complies with NCLB is the Minnesota Comprehensive Assessment test, or MCA. MCA’s are given in reading and math for Grades 3, 5, and 7; reading in Grade 10; and math in Grade 11. As of 2005-2006, students in Grades 3-8 will be tested annually in reading and math, as well as once sometime between their sophomore and senior years (Rochester Public Schools, 2004). These tests are multiple choice, fill in the blank, scantron answer sheet formatted. These are the type of tests that students who are low level, average level, and in general, score lower on. The question of whether these types of standardized norm-referenced tests are the right tool to evaluate the academic success of our students is even more critical. Not only do these tests not

reflect what students know (rather, what they don't know), but also, based on this study, students do not score as well on this type of test format.

When formulating assessments a balance of strategies should be utilized. There should be a purpose for the test besides establishing what a student doesn't know. If we shift our focus from norm-referenced testing to individualized evaluations and grading practices, we can tailor-make plans to help individual students become more successful. How can we help them to reach higher standards if we don't know what they specifically need help with? It doesn't make sense that we are going to close an achievement gap between minority and majority groups simply by reverting back to traditional and standardized forms of testing. According to this study, we will not close the achievement gap by using Standardized testing, we will make sure that it remains!

Standardized testing produces an outcome that does not give us any insight into the depth of knowledge that student's have. Standardized testing does, however, result in numbers that show us which groups of people are not succeeding to norm-based standards. How can we hold those groups accountable to produce norm-based results if we are not using assessments as a tool to show us what background core knowledge they have? We continue to emphasize the need for higher standards yet our measuring tool does not provide us with information to individually raise performance abilities, or even clearly see what those abilities are.

A test should be a tool that we can use to diagnose an individual's learning needs. Unfortunately, many experts say that norm-referenced testing (multiple choice testing specifically) invokes test anxiety. The problem is that multiple choice testing implies only one right answer. There is no creative thinking involved, or a chance to explain how one came up with an answer. There is just a definitive right or wrong. Wrong, or "no" communicates to students that thinking about issues and coming up with solutions is not valued. It stifles their desire to think about and explore issues, and causes them to be preoccupied with the activity of predicting the answer the teacher wants (Brooks, 1993).

Although these findings haven't been widely publicized, studies of students of different ages have found *a statistical association between high scores on standardized tests and relatively shallow thinking* (Kohn, 2000). The most damaging testing programs are characterized by certain readily identifiable features, beginning with the use of tests that are mostly multiple choice (Kohn, 2000). There isn't a way to build a multiple choice question that lets students show what they can do with what they know. In the area of science, the assessment debate focuses on underachievement partly because of complaints from employers that high school graduates lack the skills for employment. Science process skills are considered important, and standardized, norm-referenced tests do not assess these skills (Gabel, 1994). Why are we assessing students to get them ready to enter the working world as adults, in a way that is not a valued practice for them in that readiness? This is another facet of why students may not do as well on scantron test formats, as they may not see any value in these tests, or the relevance of these tests to their own lives.

If the goal of NCLB is 100% proficiency by 2014, and our government expects this to happen by using annual standardized tests as the tool to do it, there must be more breakdown in the categories of students who under comparison. This 100% "proficiency" assumes that all test-takers are equally proficient in completing the standardized norm-referenced multiple choice scantron testing format. But, what about ELL students who have little to no experience taking standardized tests? And, what about challenged and learning disabled students who cannot accurately and proficiently transfer information to a multiple choice scantron answer sheet while testing? And, are standardized tests the appropriate tool to use to gage a student's total learning success or failure? NCLB, and standardized testing bring up many more questions, than answers!

Perhaps we are making a mistake with the NCLB Act. The performance-based assessments that went along with the Minnesota Graduation Standards that were recently discarded encouraged open-ended, inquiry based, problem-solving thinking. Aren't these the qualities most valued in an employee?

Alternative assessment, authentic assessment, and performance-based assessment are three terms that are synonymous for meaning assessments that require students to generate rather

than choose a response (Herman, 1992). Many experts think that we are doing a great injustice to our young people by returning to standardized testing (forcing student to choose rather than generate a response), and misrepresenting them by focusing on their inadequacies (Kohn, 1999). There are many options for assessments besides the norm-referenced standardized testing format: participation, observational notes, performance assessments, student self-evaluation, evaluation conferences, portfolios, and a variety of project illustrations (Zemelman, 1993). We should be working on implementing informal tests that are non-standardized and elicit information about a student's ability in a specific area. We need to focus on building a qualitative picture of the student's understanding of the material rather than devising a method to expose the student's ignorance in a subject (Armstrong, 1994).

The word "assess" comes from the French "assidere", which means "to sit beside". By using alternative assessments (those other than standardized testing), we could reaffirm the fundamental role of assessment, which is to provide authentic and meaningful feedback for improving student learning, instructional practice, and educational options (Bottoms, 1996). By using alternative assessments we may go back to "sitting beside" our students, and guiding them through a successful academic career.

## V. SUMMARY AND CONCLUSION

The results of this study indicate that low level students taking scantron, and thus Standardized Tests, are affected by this testing format. Their performance level will be lower simply due to the testing format. Average level students are also affected, and will not do as well on standardized tests due to the testing format. High level students do not seem to be affected, and should not experience a lower performance due to the standardized testing format. When all students are combined rather than broken down by learning levels, there is still a significant difference between test formats, with the scantron fill in the blank format producing lower scores.

There is a great deal of literature to support the fact that standardized, norm-referenced, fill in the blank scantron format testing is not an effective method of assessment. It does not show us what students can do with what they know, rather, this type of testing simply shows us what students do not know. The study conducted posed the question: does the format of a test increase or decrease the average performance level achieved by students? The data gathered during the testing of the hypothesis that student performance would be influenced by the format of tests taken, and that scores would be lower for students taking scantron tests, supported the hypothesis. Based on the literature available on this topic and the data gathered during this study, in light of our current concerns and efforts to “close the gap” between our high and low performers on standardized tests, by continuing to test using the scantron multiple choice fill in the blank format, we will make sure that the

gap continues. This will prove to make NCLB's 100% proficiency goal by the year 2014 difficult to impossible. If NCLB's goal is impossible, this brings up one last, very critical question: what is going to happen to our nation's public education system?

It is highly recommended that this study be continued on a wider scale, with a larger sample size for a longer period of time. The data obtained from a wider scale duplicate study should then be made available to all who are involved with public education.

## REFERENCES

- Armstrong, Thomas. *Multiple Intelligences in the Classroom*. Alexandria, VA: Association for Supervision and Curriculum Development, 1994. 119.
- Bottoms, Gene and Sharpe, Deede. *Teaching for Understanding through Integration of Academic and Technical Education*. Atlanta, GA: Southern Regional Education Board, 1996. 6.
- Bracey, Gerald W. *Setting The Record Straight: Responses to misconceptions about public education in the United States*. Alexandria, VA: Association for Supervision and Curriculum Development, 1997. 32, 33.
- Brooks, Jacqueline Grennon and Martin G. *The Case For Constructivist Classrooms*. Alexandria, VA: Association for Supervision and Curriculum Development, 1993. 85-92.
- Brown, Douglas H. *Principles of Language Learning and Teaching*. Englewood Cliffs, MN: Prentice Hall Regents, 1994. 253-255.
- Educators in Connecticut's Pomperaug Regional School District 15. *Performance-Based Learning and Assessment*. Alexandria, VA: Association for Supervision and Curriculum Development, 1996. 192-199.
- Gabel, Dorothy L. (edited by). A Project of the National Science Teachers Association. *Handbook of Research on Science Teaching and Learning*. New York, NY: Simon & Schuster MacMillan, 1994. 566-568
- Herman, Joan L., Aschbacher, Pamela R., Winters, Lynn. *A Practical Guide to Alternative Assessment*. Alexandria, VA: Association for Supervision and Curriculum Development, 1992. 1-6.
- Kohn, Alfie. *The Case Against Standardized Testing: Raising the Scores, Ruining the Schools*. Portsmouth, NH: 2000. 4, 18, 36-37.
- Kohn, Alfie. *The Schools Our Children Deserve: Moving Beyond Traditional Classrooms and "Tougher Standards"*. New York, NY: Houghton Mifflin Company, 1999. 73, 262-264.
- Minnesota Minority Education Partnership, Inc. *2004 State of Students of Color (Building Alliances for Student Success)*. MMEP, Inc., 2004. 6-10.



Rochester Public Schools. *Elements of Excellence: 1856-2004. Rochester Public Schools 2003-2004 Annual Report on Curriculum, Instruction, and Student Performance.* R.P.S., 2004. 10, 11, 26, 27.

[www.ed.gov/offices/OESE/esea/index.html](http://www.ed.gov/offices/OESE/esea/index.html) *H.R. 1: The No Child Left Behind Act. Renewing the Promise of America's schools. "Education Reform 201" – a presentation courtesy of the House Education and the Workforce Committee Majority Staff.* (4 January 2004).

Zemelman, Steven, Daniels, Harvey, Hyde, Arthur. *Best Practice: New Standards for Teaching and Learning in America's Schools.* Portsmouth, NH: Heinemann, 1993. 185-186.

HOW DOES A LEVEL SYSTEM THAT INCLUDES HAVING STUDENTS WITH  
EMOTIONAL OR BEHAVIORAL DISABILITIES GRAPH THEIR INDIVIDUAL  
EDUCATION PLAN GOALS INCREASE PROGRESS TOWARD THEIR GOALS?

by

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B.S. St. Cloud State University, 2001

A capstone submitted to the Faculty of Graduate School of Winona State University

in partial fulfillment of the requirement for the degree of

Master of Science

Department of Education

December 2004

This capstone entitled:

How does a level system that includes having students with E/BD graph their IEP goals  
increase their progress toward their goals?

Written by Nicole Lynn Meyer

Has been approved for the Winona State University Department of Education by:

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Date

The final capstone has been examined by the signatories, and we find that both the  
content and the form meet acceptable presentation standards of scholarly work in the  
above mentioned discipline.

Meyer, Nicole (B.S., Special Education)

How does a level system that includes having students with E/BD graph their IEP goals increase their progress toward their goals?

Capstone directed by Dr. Thomas Sherman, Ph. D.

### Abstract

Documentation of the progress made toward Individual Education Plan (IEP) goals for students with disabilities is mandated by the law. Reporting progress on emotional or behavioral based goals and objectives can be difficult because a student may not generalize the desired behaviors across educational environments. A student may have accomplished a goal in a resource room environment but may not be able to perform the desired behaviors in the community, at home or in a mainstream classroom. Therefore documentation across settings is necessary for obtaining an accurate idea of a student's progress toward their goals. This study explored the effects of students who have Emotional or Behavioral Disabilities (E/BD) that graph their IEP goals and progress through a level system.

For twenty-four weeks, ninth through twelfth graders were observed to determine how a level system that included having students with E/BD graph their IEP affected their progress toward their goals. Students were monitored throughout this time frame to document any changes that were made in behavior and progress toward IEP goals.

Within the twenty-four weeks that this study was conducted, it was determined that the combination of self-graphing and a level system enhanced student progress and increased the quality of data that was used for documentation of progress for the IEPs.

However, this was not an external motivator for all of the students with E/BD that were involved in the study.

Although reporting progress for emotional or behavioral based goals and objectives is challenging because tangible evidence is difficult to obtain. If implemented properly, self-graphing, in conjunction with a level system, accurately displays a concrete picture of the student's behavior in multiple settings. This process can also be an external or internal motivator for students to improve their behavior that then increases progress toward their IEP goals.

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## INTRODUCTION

The law mandates documentation of the progress made toward IEP goals for students with disabilities. Reporting progress on Emotional or Behavior Disability based goals can be difficult because a student may not generalize the desired behaviors across educational environments. A student may have accomplished a goal in one setting (resource room) but they may not be able to perform the desired behavior in other environments (at home, in the community or in the mainstream classroom). Therefore, documentation across settings is necessary for obtaining an accurate idea of students' progress toward their goals. This study explored the effects of students who have E/BD that graph their IEP goals and the progress through a level system.

### *Need for Study*

Many students who receive special education services believe that they have to remain in the program throughout their entire education career. This perception is not accurate. Students who receive special education services are able to exit the program once they meet their IEP goals and their disability no longer negatively impacts their educational performance. By the time students who receive special education services reach the high school level, the motivation to exit the program is no longer flourishing and as a result the expectations need to be redefined. The students need to be active participants in this process.

### *Statement of Problem*

Progress monitoring is essential in the area of special education. In the area of E/BD it is very difficult to measure a student's behavioral and emotional growth. It is also difficult to show documentation that a student is no longer in need of special



education. In addition, most students also lack the motivation to learn the skills that assist them in coping with their weaknesses in regard to their disability.

### *Purpose of Study*

The culmination of this study will determine how a behavior management system motivates students to work toward the completion of their IEP goals and assist them in acquiring the knowledge and skills to be independent and successful in the mainstream environment. It will also assist in documenting the progress students are making toward their IEP goals.

### *Statement of Hypothesis*

Will students' who graph their IEP objectives be motivated to make positive progress toward completion of their IEP goals and be a means of documenting progress?

### *Definition of Terms*

**Annual Goals:** Statements, which are derived from the student's needs that describe what students with disabilities can reasonably be expected to accomplish within a year.

**Behavior Chart:** A method used to document progress made towards IEP objectives. The classroom teacher based on the students' behavior demonstrated in the classroom completes the chart. (see Figure 1.1)

Figure 1.1 Behavior Chart

Name  Class:  Week: _____	Monday	Tuesday	Wednesday	Thursday	Friday
Prepared for class					
Writes assignments in planner					
Completes assignments					
Participates appropriately					

Please place a + if objective was completed during the class period.

Please place a – if objective was not completed during the class period.

Please place a N/A if there was not an opportunity to complete the objective.

Feel free to add any comments that you feel is necessary for me to understand the student's behavior

Missing Assignments:

**Behavior Management:** All methods used to enhance the probability that people, individually and in groups, choose behaviors, which are personally fulfilling, productive, and socially acceptable.

**Case Manager:** A special education teacher who coordinates and manages all special education issues related to a particular student assigned to them.

**Emotional or Behavioral Disabilities (E/BD):** A social, emotional or behavioral functioning that significantly differs from generally accepted, age appropriate ethnic or cultural norms and adversely affects a child's academic progress, social relationships, personal adjustment, classroom adjustment, self-care or vocational skills.

**Individuals with Disabilities Education Act of 1997 (IDEA '97):** Federal law that mandates every child in the United States who has a disability and needs special education, is entitled to a free appropriate public education (FAPE). The five major components of IDEA are evaluation and identification, Individualized

Education Program and Related Services, Placement, Funding and Procedural Safeguards.

**Individual Education Plan (IEP):** A written document that describes a child's educational needs and details the special education and related services the educational institution will be providing to address those needs.

**Level System:** A five level behavior tracking system with behavior expectations, privileges, and limitation outlined for each level; based on individual cumulative behavior percentage of their IEP goals and objectives. (see Figure 2.1)

Level 1	(Beginning)				
Level 2					
Level 3					
Level 4					
Transition					(End)

**Mainstream Environment (Classroom):** A regular education classroom that provides a general education curriculum to predominantly non-special education students.

**Objectives:** Measurable steps between a student's present level of performance and the annual goal target.

**Overall Cumulative Percentage:** The student's percentages that are derived from the average of all of the behavior charts and objectives.

**Progress:** A student's positive movement toward a goal.

**Progress Reports:** A means of documenting and communicating a student's progress toward a goal.

**Resource Room:** A special education classroom that provides individualized instruction to students who qualify for special education services.

**Special education services:** Specially designed instruction that meets the unique needs of a child.

**Weekly Behavior Charts:** A means of collecting data on an individual's behavior in the mainstream classroom. Each chart is individualized with each student's IEP goals and objectives. These charts are a culmination of the students overall weekly behavior in a particular class.

### *Variables*

#### *Independent Variables.*

All of the students included in this study had an I.Q. score in the average range with behavioral scores in the Clinically Significant Range. Some students included have experienced unique and diverse life experiences: chemical use, criminal background, and death of an immediate family member or divorce. Some students have not received continuous education from the same institution. These students were in high school and have received special education for a minimum of three years. Each of these students had at least 52 minutes of resource room time a day.

*Dependent Variables.*

The student's graphing their progress on their IEP objectives while moving through a level system and progress made toward completion of their IEP goals was measured in this study.

*Control Variables.*

All students that were included in this study were born and raised in America. They all attended Mayo High School and received special education services for E/BD from the same instructor.

*Limitations of the Study*

If a student was not in attendance, there was no opportunity for documentation of progress for that given day. Truancy and transferring of schools were factors that affected the outcome of data. All of the students had behavior charts with IEP goals and objectives that were different to meet the individual needs of each student. These charts were distributed weekly to mainstream teachers and they were to be completed based on the student's performance in the classroom. Teachers may not have accurately or consistently completed the students' behavior charts. The rate at which the teachers completed the charts also affected the outcome of the data, as some teachers were not consistent in returning the completed charts. Another limitation of this study was that one of the privileges for Level 3 was the ability to use the Snack Bar during class. This was an issue as there were several times during the study where students were not able to eat breakfast in the morning. Due to the fact that they needed nourishment students were allowed to get a snack. The last limitation was at times; students were defiant and

refused to participate in the graphing of their goals on a particular day. Therefore, those students did not receive the visual representation of their behavior for the previous week.

## REVIEW OF RELATED LITERATURE

There are many daily demands that are placed on teachers who go beyond teaching lessons. These include, but are not limited to: planning, delivering information, and checking for understanding of the lesson, modifying lessons for students with special needs, collaborating with colleagues, contacting parents, and managing student behaviors. Managing students' behavior has been a popular trend in education in both the mainstream and special education environment. The Phi Delta Kappa releases an annual Gallup poll of public attitudes toward schools. Since 1969, the lack of discipline has been cited as one of the top problems every year (O'Neil, 2004). Before discipline is necessary, potential behavior related issues needed to be identified before they occur. This is one proactive way of preventing discipline issues in the classroom and as a result would lead to more time for in-depth instruction.

An effective classroom with limited behavior issues contains several components. On the first day of school, the students and the teacher should establish rules and guidelines that are used within the classroom. This will give the students ownership for the expected behavior. The rules should be posted in the classroom in a positive manner using age appropriate language. In order for students to feel safe both emotionally and physically, they need a safe and supportive classroom climate. When a disruption occurs in a classroom, the teacher should attend to it as quickly and non-intrusively as possible. The teacher should also be flexible in order to negotiate with the students. Teachers need to build positive relationships with students and parents. In *NEA Today* O'Neil stated, "Students don't care how much you know until they know how much you care." Making positive relationships with not only students as well as the families

promote team building (O’Neil, 2004). There still lies an issue: What happens when all of these components are implemented and there are still students who do not demonstrate acceptable behavior?

Educators report that students who demonstrate destructive, distractible, and aggressive behaviors are among the most difficult students to teach. When students are demonstrating these behaviors, the most common consequence is removal from the classroom. Barbara D. Bateman quoted as part of IDEA 1997 in reference to placement,

“To the maximum extent appropriate, children with disabilities, ... are educated with children who are not disabled, and special classes, separate schooling, or other removal of children with disabilities from the regular education environment occurs only when the nature or severity of the disability of a child is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily (Bateman, Linden 1998).”

In order for this to happen, students with disabilities need positive interventions that are motivating and able to be used in both the mainstream and special education setting (Elia, Ambrosini,... 1999). Neither the classroom teacher nor the special education teacher should be solely responsible for implementing the plan: it should be a team effort.

Because behavior is learned, within the context of the learning environment, instructional environments can be analyzed and structured to predict success. Instruction is the most effective intervention for preventing both academic and social failure. Students who strive to be successful require consistent encouragement, feedback, and positive reinforcement (1999).

Data collection is the most effective way to document whether a behavior management system is effective. For students who are in special education, it is



considered best practice to use their progress toward IEP goals and objectives as a means of collecting data. Once the data is collected, the students can then graph the results. “Self-graphing appears to be a potentially powerful variable...for both on- task and academic performance (Guntner, Miller... 2002).” Having the students graph their progress not only gives the teacher a visual aid that documents how effective a behavior management system is. It can also be a tool that promotes frequent feedback (2002). Self-graphing allows students to see where they are beginning with their IEP goals in comparison to where they need to be in order to exit a special education program. This is essential because many students have the belief that once they are in special education, they always will be.

An abundance of information on classroom management is available to educators. Having control of a classroom is the basis of effective behavior management systems. Students with disabilities need immediate feedback on their behavior and through the use of behavior charts students will be able to graph their progress and move through a level system toward exiting the special education program.

## METHODS AND PROCEDURES

### *Overview*

This study tested how students with E/BD were affected by the implementation of a level system that included self-graphing of IEP objectives to increase the progress made toward their goals. For twenty-four weeks, behavior charts were completed by the mainstream teachers on specific behaviors performed by individual students. These completed behavior charts were calculated into a cumulative percentage for each goal; the students graphed their progress using Microsoft Excel. An overall behavior percentage was calculated to determine what level and step the students were on. The hypothesis of the study was to show an increase in progress toward IEP goals while directly impacting the students through the movement of the level system and increasing the student ability to display socially appropriate behaviors in a variety of environments.

### *Subjects*

This study was based on students in grades 9-12 who have met criteria for E/BD. The participants were divided between three males and three females. All of these students have been receiving special education services for a minimum of three years. All of these students I.Q. scores are in the average range and behavioral scores in the Clinically Significant Range. Each of the students is unique and had diverse life experiences. One out of the six students had been removed from the mainstream school to be placed in a more restrictive environment within their educational career. Two of the students had been to treatment within the year for chemical issues. All of the students lived in diverse family structures: three lived with their biological mother and father, two lived with their biological mothers, and one lived with a biological father. All of the

students lived in America their entire lives and one of the students has a Hispanic background.

### *Research Design*

The control group consisted of students with E/BD that were enrolled in Mayo High School. Each student received special education services from the same instructor for a minimum of 52 minutes a day. During this time on Wednesdays, students received their weekly percentages for each IEP goal. The students graph their progress and reflected on what was illustrated by the graph. An overall weekly average was calculated, which would determine what level the student was on. Each level had restrictions and privileges the students earned for the following week.

### *Instruments/ Measuring Devices*

The level system included 5 levels that had behavior expectations, privileges and restrictions. At the beginning of the study students created the privileges and restrictions while the instructor created the expectations for each level. A poster was created and displayed in the classroom describing each level (see Figure 2.1). Each student was assigned a random letter of the alphabet to maintain confidentiality for each student's progress. The instructor or paraprofessional updated student levels weekly. These levels were displayed on a chart in the classroom.

Each student created a Microsoft Excel document that included a table and graph of their individual weekly progress. The information reported on these graphs was a visual representation of progress made toward each goal for an academic week. Using this information, progress reports were created by the instructor for each students IEP

goals. These reports were created quarterly and were sent to the parent. A copy was also placed in the student's cumulative education folder.

### *Validity Measures*

The results found in this study vary with each individual student. As students experienced various life stressors, their behavior was directly impacted. Even though, not all mainstream teachers participated in the completion of the behavior charts an overall picture of the student's progress was obtained. In reference to reporting accurate progress, this procedure is a valid method as teachers are able to report their perceptions of the student's behavior in the classroom.

### *Reliability Measures*

Although different instructors interpreted all behaviors, the instructors that participated in the study had consistent individual perceptions of the classroom behaviors. The classroom teachers recorded their observations on the behavior charts and each behavior chart was calculated into a cumulative percentage for each goal. Since the interpretations were subjective, reliability could have been influenced by these outside factors and may have affected the results of the study.

### *Procedures*

To complete this study all IEP goals needed to be observable and measurable. A behavior chart was completed for each student. The behavior chart included the student's name, the teacher's name and class, the date, the days of the week, the student's objectives, and a brief set of instructions. On Fridays the behavior charts were distributed either electronically (e-mail) or in person. Throughout the following week the teacher recorded with a plus (+) or a minus (-) whether or not the student demonstrated the

behavioral objective within the 52-minute class period. For each student there were seven charts (one for each teacher). The charts were then recorded to identify which reports were missing. E-mail was sent to those teachers reminding them that the students chart was missing. On Monday morning, the data was calculated and a cumulative percentage was totaled for each objective and goal. On Tuesday the students graphed their goals using Microsoft Excel. The students had their own disk with their data on them. They were given handouts with the graphing instructions on how to input the data and create the graphs. After the graph was completed for that week, the students analyzed it, using a set of questions: Are you satisfied with your progress? What are you proud of? What do you need to improve on? What are you going to do differently to improve your progress? Once the student's had their goals graphed, they discovered if they were able move ahead a step on the level chart. The step and level determined what restrictions and privileges the student received for the following academic week.

### *Conclusion*

As part of IDEA 1997 all students who receive special education services needed to show progress toward their IEP goals. The behavior charts provided a concrete picture of how the students were performing across settings. The graph that the students created were not only were used as a motivational tool for them but also provided a visual representation of the student's progress toward their objectives.

## RESULTS AND DISCUSSION

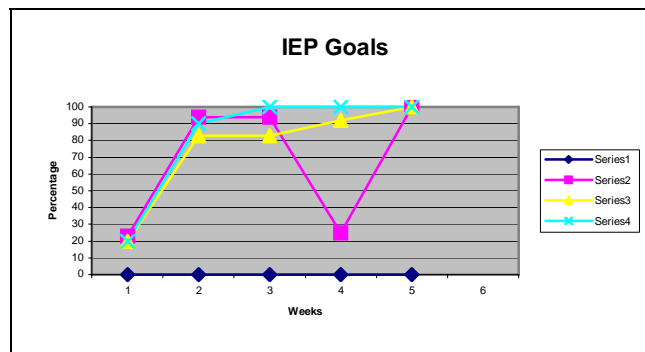
For this study, the researcher spent twenty-four weeks observing students with E/BD. During this time six students were identified: three males and three females whose IEPs had observable and measurable goals and objectives. Behavior charts were created for each of the student. These charts contained the student name, their IEP objectives, the days of the week, each class and teacher and a brief set of instructions (see Figure 1.1). On Fridays the behavior charts were distributed to teachers. Throughout the following week the teacher recorded with a plus (+) or a minus (-) on the chart, depending on the students' behavior during the 52-minute class period. On the following Friday, the teacher completed the charts, and he/she returned the chart. For each student there were seven charts. The charts were recorded to identify which ones were missing. E-mail was then sent to those teachers that had not returned the chart reminding them to return them. On Monday morning, all the charts were calculated and cumulative percentages were totaled for each objective and goal. On Tuesday the students graphed their goals using Microsoft Excel with their own data filled disk. They were given a handout with the graphing instructions on how to input the data and create the graphs. After the graph was completed for that week, the students analyzed it using a set of questions (See Figure 1.2).

Figure 1.2 Survey Questions

1. Are you satisfied with your progress?
2. What are you proud of?
3. What do you need to improve on?
4. What are you going to do differently to improve your progress?

Once the students had their goals graphed, (See Figure 1.3) they discovered if they were able move ahead a step on the Level Chart.

Figure 1.3 Microsoft Excel Graph



#### Data:

Table 1.4 displays the overall behavior percentages for the twenty-four weeks of observations. Graph 1.4 illustrates the overall behavior percentages for weeks 1-12.

Table 1.4 Overall Behavior Percentages of Student IEP Goals

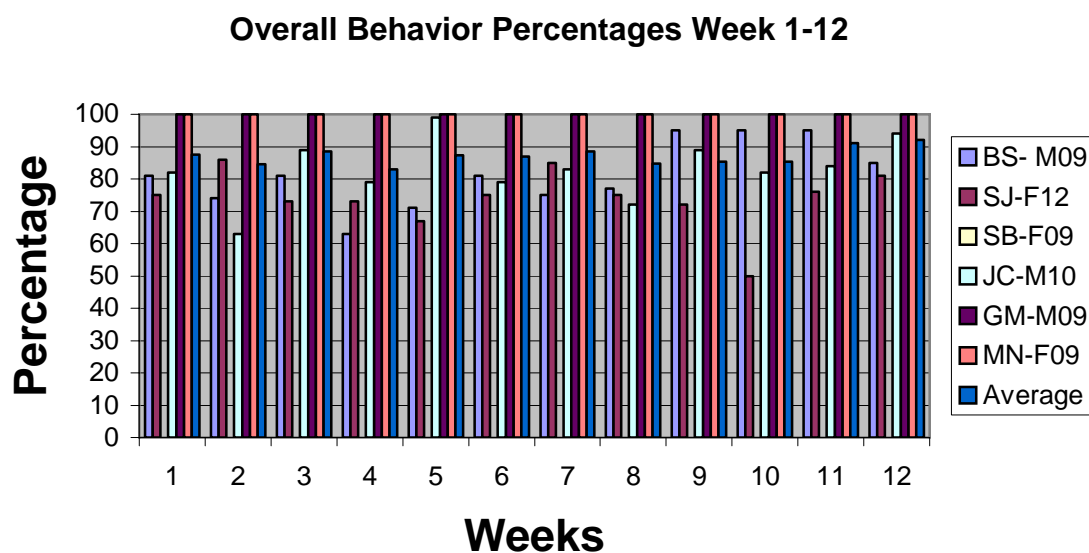
Week	1	2	3	4	5	6	7	8	9	10	11	12	13
BS- M09	81	74	81	63	71	81	75	77	95	95	95	85	85
SJ-F12	75	86	73	73	67	75	85	75	72	50	76	81	74
SB-F09													
JC-M10	82	63	89	79	99	79	83	72	89	82	84	94	78
GM-M09	100	100	100	100	100	100	100	100	100	100	100	100	100
MN-F09	100	100	100	100	100	100	100	100	100	100	100	100	100

Week	14	15	16	17	18	19	20	21	22	23	24
BS	89	99	84	89	91	90	94	96	99	90	95
SJ	62	97	98	92	80	77	74	80	78	77	82
SB	97	82	61	56	83	66	45	94	76	75	76
JC	84	74	86	90	48	82	74				
GM	100	100	100	100	100	100	100	100	100	100	100
MN	100	100	100	100	100	100	100	100	100	100	100

M- Male F- Female

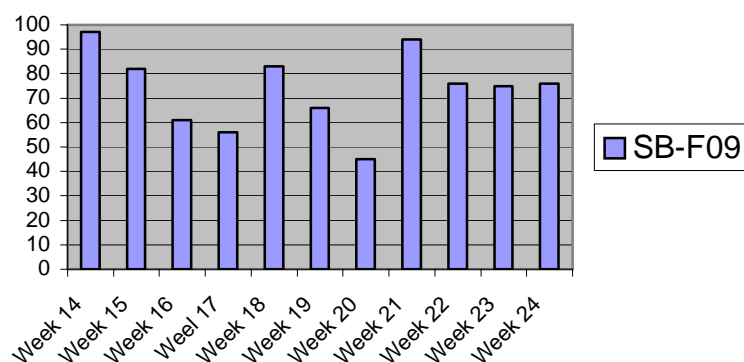
09- Ninth grade 10- Tenth Grade 12-Twelve Grade

Graph 1.4 Overall Behavior Percentages Week 1-12



These percentages are the average of all the student's behavior goals. Through conversations with the students, it was determined that their in-class behavior was drastically affected by what was occurring in their personal lives. Percentages seemed to decrease when a student was experiencing crisis. For example during week 17, SB-F09's father went to prison. SB-F09 had a very difficult time coping with this crisis that was affecting her whole family and it drastically affected her in school behavior for the weeks to follow as can be seen by her dips in her scores.

SB-F09





Student graphing their IEP goals as to increase progress made toward completion of the goal and a means of reporting progress was the focus of this study. As part of IDEA 1997 all students who receive special education services need to show progress toward their IEP goals. Accurate data was able to be reported as mandated by law through the collection of data across settings. The data collected was measurable and easy to comprehend. The behavior charts provided a concrete picture of how each student was performing across settings (see Figure 1.3). The graphs that the students created were a visual representation of the student's progress toward their objectives.

Overall, each student made improvements in his/her behavior throughout the twenty-four week time frame. Although the growth was not a continuous gradual incline, progress was made and motivation to improve increased; GM-M09 and MN-F09 were dismissed from special education, and BS-M09 was able to decrease service time.

## SUMMARY AND CONCLUSION

The law mandates documentation of the progress made toward IEP goals for students with disabilities. Reporting progress on emotional or behavioral based goals and objectives can be difficult because a student may not generalize the desired behaviors across educational environments. Therefore, documentation across settings is necessary for obtaining an accurate idea of a student's progress toward their goals.

This study explored the effects of students with E/BD who graph their IEP goals and the progress made through a level system. For twenty-four weeks, the behaviors of six students were tracked. These specific behaviors were chosen based on the students' IEP goals. With the data that was collected across settings, students graphed their progress, which then, placed them on a step and level system, which consisted of predetermined expectations, privileges and restrictions.

Although the data did not show a continuous incline, progress was made and students were motivated through the privileges and restrictions of each level. For example if a student asked to for a privilege (use of the computer for entertainment) the researcher's response was, "What level are you on?" Each student made individual gains in their behavior and students gained an awareness of their IEP goals and objectives. The data was also used to accurately report progress of each goal.

### *Recommendations:*

In discussions following this study, a question arose about to the mainstream teachers' willingness to participate in the collection of data. It is necessary to obtain the participation of the student's teachers but when not, possible program paraprofessionals can be used to record the data on the behavior charts. The researcher would continue to

use this method as a means for collecting data for progress reports, motivating students through the use of a level system that included expectations, restrictions and privileges, and for increasing student awareness of behavior perceptions, expectations, and IEP goals.

## REFERENCES

- Bateman, B., & Linden, M. (1998). *Better IEP's*. Longmont, CO: Sopris West.
- Elia J, Ambrosini P, Rapport J. (1999) Treatment of attention-deficit-hyperactivity-disorder. *New England Journal of Medicine*, 340:780-788.
- Gunter, P., Miller, K., Venn, M., Thomas. K., House. S., (2002, Nov/Dec). Self-graphing to success computerized data management. *Council for Exceptional Children Teaching Exceptional Children*, 2. 30-34.
- O'Neil, J. (2004, January). Discipline zingers. *NEA Today*, 4. 24-32.

WILL STUDENT-LED CONFERENCES INCREASE STUDENT  
ACCOUNTABILITY?

By

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A capstone submitted to the Faculty of the Graduate School of Winona State  
University in partial fulfillment of the requirement for the degree of  
Master of Science  
Department of Education  
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This capstone entitled:

Will Student-Led Conferences Increase Student Accountability?

Written by Susan L. Munroe

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The final copy of the capstone has been examined by the signatories and we find that both the content and the form meet acceptable presentation standards of scholarly work in the above mentioned discipline.

I dedicate this capstone to my husband, Mike, and my two sons, Taylor and Jordan.

Without their patience and support, getting my Masters would not have been possible. Thank you for your allowing me to attain this goal.

Munroe, Susan Lee (M.S. Education)

Will Student-Led Conferences Make Students More Accountable?

Prepared under the direction of Dr. Tom Sherman, Facilitator

### Abstract

Students were not interested in their grades until the grades came out in report cards. The students did not see the importance of each assignment or test grade. Traditional conferences only made students apprehensive about what was being said.

The tester read about student-led conferences and learned that student-led conferences gave an over all feeling of success for all involved. A survey was prepared for students to fill out about their grades. A pamphlet was sent to parents explaining student-led conferences. After having traditional conferences in the fall, students were told they would be doing student-led conferences in the spring. At the beginning of the third quarter student portfolios were introduced. The students then kept work that they wanted to keep in their portfolios. Students were then taught how to keep track of their own grades. Students spent two months preparing for their student-led conferences.

The goal was to make students aware of the importance of individual assignment scores. Through doing student-led conferences the students may not have become more aware of the importance of assignment grades. This was due to the overwhelming task of keeping track of their scores. However, it is believed



that the students felt more important and responsible for their grades, and very positive comments were received from parents about this style of conferences.

This style was very beneficial not only to the tester, but to the students and their parents as well. The students were so proud to show off their work. There was a sense of pride and ownership from the students. Parents were also very proud of their child

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## CHAPTER I

### **Introduction**

This is a study on how student-led conferences will affect students' attitudes toward individual assignment scores. The study was conducted in the fourth grade classroom at Mabel-Canton Elementary. There were twenty-three students in the fourth grade at this time.

#### Need for the Study

Students were not interested in their grades until report cards were handed out at the end of the quarter. Some students seemed to be under the impression that if they received an "A" on an assignment that this would be their grade for the quarter. Other students were just throwing their assignments away without even looking at the scores.

#### Statement of the Problem

Students did not realize or care about the importance of assignment grades and test scores. The students would either look at one score and think this would be their grade for the quarter, or just throw an assignment away.

#### Purpose of the Study

In order to change the students' attitudes about their assignment and test scores, the tester decided to use student-led conferences.

#### Statement of Hypothesis

Student-led conferences will increase student accountability more than the traditional parent-teacher conferences.

## Definition of Terms

Accountability in this paper is defined as students knowing their grades for each subject at the end of the quarter.

Student-led parent conferences are defined as students leading the conference time and sharing information with parents.

Regular parent/teacher conferences are defined as a teacher-led conference with the parent.

Student portfolios are a method for the students to organize their assignments, tests, and scores.

## *Control Variable*

All fourth grade students participated in the student-led parent conferences. There are Title I and Special Education students included in the fourth grade. All students were taught how to keep track of their assignment and test scores. They were taught how to find the average and then also how to find the percentage.

## Dependent Variable

Fourth grade students knew their third quarter grades.

## Independent Variable

Students were enthusiastic about this project. Unfinished homework or homework that wasn't handed in affected the grades that some students had. Some students were poor at handing in assignments on time this may have negatively affected the outcome of the students knowing their grade for the quarter. Because of missing assignments students were given a progress report with their final grades.

## CHAPTER II

### Review of Related Literature

#### **Introduction**

Student-led conferences seem to be the new wave of the future.

Traditional parent-teacher conferences seem to be more frustrating than helpful, because of this some schools have turned to student-led parent conferences.

These styles of conferences give the students more responsibility for what they are learning. “Student-led parent conferences are very powerful” (Hughes, Oakes, Lenzo, & Carpas 2001).

#### *Student-Led Conferences*

In the traditional conference setting students are left out of the process. (Pierce Picciotto 1996). The students feel anxious about what will be said about them at the traditional conference. In the traditional conference it is difficult for students to learn about their own learning. Some parents may also feel anxious prior to the traditional conference.

Student-led parent conferences benefit parents, students, and teachers. Parents benefit from student-led parent conferences because it gives them a chance to interact with their child. Parents appreciate the time that they are able to spend with their children. Student-led parent conferences also provide an informal setting for parents to learn more about their children, the school, and the teacher (Pierce Picciotto 1996). The parents are able to watch their children in action. Parents are sometimes surprised at what their children can do. The

student-led parent conferences allow parents to see things as they really are in the classroom. This style of conference also enables the parents to be part of their children's learning. They become more aware of their children's needs (Pierce Picciotto 1996). Most parents report that they have learned considerably more about their children's progress in this hands-on experience (Pierce Picciotto 1996).

Students benefit from student-led parent conferences, too. The students need to prepare for the conferences. This results in the students becoming more aware of their strengths and weaknesses. Students are able to set goals for themselves and share these goals with their parents. Students choose work samples that they want to share with their parents. When the students have chosen work samples to share, they must then practice what they are going to say and how they will answer questions from their parents. This style of conferences helps the students become self-motivated learners (1996). Students enjoy being the center of attention also. The children are very proud of their work and enjoy showing off their work.

The student-led parent conference also benefits the teacher. The teacher no longer has to go through a traditional conference and repeat what has been said on the report card. This style of conference gives the teacher a chance to see how the students and their parents interact together. It shows the teacher if there are positive attitudes towards the students' learning. These interactions can be a helpful tool in knowing why students act the way they do in certain situations.

## CHAPTER III

### Methods and Procedures

#### **Overview**

The students involved in this project receive instruction on how to calculate their subject grades using the scores from assignments and tests that were given throughout the third quarter. Students then were directed on how to organize their portfolios for conferences.

#### *Design*

To begin this project the tester handed out a survey (Appendix A) to the students regarding their final second quarter grades. Students answered the survey questions as best as they could. This survey was to show what the students knew about their second quarter grades. The same survey was given at the end of the third quarter.

Parents were notified about the student-led parent conferences in a parent letter and a pamphlet (Appendix B). The pamphlet was sent home again with the conference schedule. This pamphlet explained to the parents what student-led parent conferences were. The pamphlet answered any questions the parents had. A permission slip was sent home for parents to sign so videotaping the student-led parent conferences was possible. Videotaping the students during the practice sessions and at the student-led parent conferences helped the students become better presenters.

At the beginning of the 3<sup>rd</sup> quarter student portfolios were introduced. The portfolios helped the students organize assignments and keep track of their scores. For each subject students kept track of assignments and scores in their portfolios.

In the students' portfolios there was a score sheet that helped the students keep a running total of their scores. On Friday afternoons corrected assignments were handed out for the students to record scores on their scores sheet. The students then calculated their scores to see what their current grade. Along with the score sheets a grading scale was also in their portfolios. The students kept track of their percentages and letter grades for each class.

To begin the portfolio there was an "Ice Breaker" sheet that allowed the students to tell their parents about what was going on in the classroom in other areas besides academics. At the beginning of each class section there was a conference class assessment sheet. This sheet had the name of the class, grade, what they had studied, what the student liked best, and a goal for each class.

Each week students saved assignments that they wanted to share with their parents. Students began saving assignments at beginning of the third quarter. Throughout the quarter the students changed the assignments that they kept in their portfolios. The assignments that the students saved were to show parents what the students were working on and how they were doing in the class. Some students chose to save assignments that showed they had improved in certain classes. The students were responsible for organizing their own portfolios.

The next step was to allow students time to practice how to do a student-led parent conference. The class created a format for students to use during the student-led parent conferences. The students were able to use this format during the practice sessions and also during the conference time if they needed to. The



students practiced with each other, teachers, or paraprofessionals that were willing to help them.

During the conferences there were center activities for the students to share with their parents. The activities were activities that the students were familiar with and were able to share with their parents with confidence.

Thirty minutes was allowed for each student-led parent conference. Conferences were scheduled to start every fifteen minutes. The fifteen-minute increments allowed the teacher to be available for questions from students or parents. Scheduling the student-led parents conferences with teachers with other siblings also was considered. The fourth grade conferences were scheduled last if there were siblings. Scheduling the fourth grade students last allowed parents to linger in the classroom and not feel hurried to get to the next conference. This allowed the students to take their time going through their portfolios with their parents. It was important for the students to know that they had their parents' attention with no distractions.

At the end of the conference parents and students filled out a survey together (Appendix C) about the student-led parent conferences. This survey was a way to get the parents' reactions to this style of conference. Parents did not fill out a survey at the beginning of this study. At this point the tester was interested in how the adults and students felt about the student-led parent conferences. It was important for all participants to feel that this style of conferences was a success.

## Selection of Students

The subjects for this study were all of the fourth grade students. All of the fourth grade students also include Title I and special education students. There were twenty-three students in fourth grade at the time of the study. The Mabel-Canton School District is located in southeastern Minnesota. It is a K-12 building. The elementary is kindergarten through fifth grade; each grade has only one section. The average class size is twenty-one. The middle level consists of sixth grade through eighth grade. The high school is grades nine through twelve.

## Conclusion

This study was designed to determine if students became more accountable for their grades. This study was conducted in fourth grade during the third quarter.

Whatever the results of the study, the tester feels that accountability is an important factor for student grades. Student-led conferences were an important factor for the students to realize that they are responsible for their grades.

## CHAPTER IV

### Results and Discussion

#### Introduction

Due to the lack of accountability for student grades, a study was set up to see if student-led conferences were a more effective means of increasing student accountability than traditional parent-teacher conferences.

#### Procedure

The students kept track of their scores throughout the third quarter in order for them to see their grades weekly. Students were to list their assignments on the score sheet in their portfolios and then calculate their scores and percentages. Updating their portfolios was done at the end of each week prior to the student-led conferences.

#### Variable

One variable that affected the results negatively was that all students did not have every assignment to record on their score sheet. This was due to absences or students not handing in assignments on time.

Another variable that affected the results negatively was that some students were not able to keep track of all their scores. The task was too overwhelming for the students.

#### Hypothesis Testing

The hypothesis for this study was that student-led conferences would increase student accountability. Students had to guess their grades for the second quarter. This was due to students not grasping the importance of individual assignment grades. However, the results of this test were inconclusive. The test results were inconclusive because the question about accountability could not be

answered. The students were overwhelmed by the task of keeping track of their scores. This resulted in students not really knowing what their third quarter grade was. Because the task of keeping track of their own scores became too overwhelming for the students, progress reports were handed out to the students. The progress reports gave each student their class grades. When the students filled out the final survey they knew their final grades. The reason students knew their final grades was due to the progress report not from keeping track of their grades in the portfolios.

The student-led parent conferences were successful in that the students were very proud of what they had done. The students worked very hard to perfect their portfolios and what they wanted to share with their parents. The students were able to share with their parents work they had done in class as well as work they had done on their own at home. The students were able to share what they had been learning in the computer lab, too. With the mobile lab the district purchased for the elementary school students were able to use their laptop and show a slide show that they had completed for conferences.

The parents' response to this style of conferences was overwhelming. The parents were very impressed with what the students had done. One hundred percent of the parents were agreeable on this style of conference. Not one parent requested a separate conference time with just the teacher and parent present.

## CHAPTER V

### Summary and Conclusion

#### Introduction

In this study student accountability was tested. Students learned how to calculate their scores from assignment and test scores. During the second quarter students were not given progress reports with their grades. Students started recording their scores at the beginning of the third quarter.

#### Summary of Results

Even though the study did not answer the question about accountability, it did give some insight as to what students can do. The pre-survey and the post-survey could not be compared. The students did know their final grade, but it was not due to the information they had in their portfolios. Students were given a progress report with their grades to include in their portfolio. The students did take on the responsibility that this was their conference this time. The students felt in control of what was to be said and what direction the conference was going to take. Students were not required to dress up, but many students played the part of the professional and dressed appropriately. This was a time for the students to let their light shine and many of them did just that.

#### Conclusion

In conclusion the end result was that the students, parents, and the teacher benefited from this style of conference. Even though the question of accountability was not answered the overall out come was that student-led parent conferences are beneficial to all involved. The understanding of students becoming more accountable for their grades is still in question.

This style of conference will be used again in the spring for conferences. It is still being debated upon whether to use this style of conferences during the fall conferences. Since there are two different conference times it makes sense to use two different styles.

### Recommendation

The end result of student-led parent conferences was that students, parents, and teacher benefited from them. Even though the question of accountability could not be answered the benefits outweigh the outcome.

The pride each student had when showing their work indicated that this style of conferences was successful. The parents also showed great pride in their children's work. It was also successful in the fact that parents and students interacted with enthusiasm and excitement. Anything that gets parents and students excited about their work is well worth the time and effort.

### References

- Austin, Teri (1994). *Changing the View Student-Led Conferences*. Heinemann, Portsmouth, New Hampshire
- Hughes, Melissa, Oakes, Kristen, Lenzo, Caroline, and Carpas, Jackie (2001). *The Elementary Teacher's Guide to Conferences & Open Houses*. Carson-Dellosa Publishing Company, Inc.
- Pierce Picciotto, Linda (1996). *Student-Led Parent Conferences*. New York, Toronto, London, Auckland, Sydney: Scholastic Professional Book

WILL STUDENTS' LONG-TERM RETENTION OF SPANISH VOCABULARY  
IMPROVE IF THE WORDS ARE PRESENTED TO THEM IN A MANNER THAT  
IS EXPERIENTIAL, COMPREHENSIBLE, ENJOYABLE, AND FREE OF  
ASSESSMENT RELATED STRESS?

by

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A capstone submitted to the Faculty of the Graduate School of  
Winona State University

In partial fulfillment of the requirement for the degree of

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This capstone entitled:

Will student's long-term retention of Spanish vocabulary improve if the words are  
presented to them in a manner that is experiential, comprehensible, enjoyable, and  
free of assessment related stress?

written by Anne M. Simon

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The final copy of the capstone has been examined by the signatories, and we find that both the content and the form meet acceptable presentation standards of scholarly work in the above mentioned discipline.

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Will student's long-term retention of Spanish vocabulary improve if the words are presented to them in a manner that is experiential, comprehensible, enjoyable, and free of assessment related stress?

Capstone directed by Dr. Thomas Sherman

### Abstract

It appears that secondary world language learners have a propensity to commit vocabulary to their short-term memory for successful completion of the test, soon

after forgetting what they have learned. To address this problem, an instructional method was sought that would eliminate the need for the learners to engage in unproductive study behavior and therefore result in long-term vocabulary acquisition. A comparative study of two methods, one traditional approach and another which adhered to Frank Smith's classic view of learning and Stephen Krashen's Free Voluntary Reading method was done. Six Spanish level 5 students (3 male and 3 female) first received a list of twenty vocabulary words to memorize them, and were tested after two weeks, and again after a month (and no further study). For the second part of the research, each student spent approximately 30 minutes per day reading a Spanish text of their choice for two weeks. As they read, they were instructed to record up to 20 vocabulary words they learned from their reading, tracking the number of times each listed word appeared. In contrast to the first part of the research, they did not study this list of words at all. Each student was tested on the list they had created from their reading after two weeks and again after a month (with no further reading). In addition to the quantitative data analysis described above, qualitative data analysis in the form of a survey and instructor observations was used. The test students did tend to show a similarity in the percentage of words they retained long-term when they memorized compared to those they acquired through reading. Most students stated that they preferred reading over memorizing a vocabulary list, but since the latter was a method to which they were accustomed, they found it to be a more comfortable way to learn. Ultimately, it was found that one must use multiple paths to learning for successful vocabulary acquisition to take place.

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## CHAPTER I

### INTRODUCTION

The average 2-year old child has a first language vocabulary of roughly 200 words. By the age of six, this same child will have acquired between 8,000 and 14,000 words. Remarkably, in that period of time, the child will have learned an average of six to ten words each day (Berger, 1988). There are no lists of words for the child to memorize, no flashcards to study or tests to take. No one will likely organize games and activities for the child to practice their newly learned words.

They will simply acquire them in a seemingly effortless manner. How does this happen so easily?

### Need and Purpose for the Study

There is little doubt that the ideal way to acquire a language is to immerse oneself in it. After all, this is how a first language is learned. But how does one go about so easily acquiring a second language? Because it is not often practical for those wanting to learn another language to immerse themselves in the target culture long enough to become fluent in the language, instructors of second languages need to find the most effective approach they can to facilitate language acquisition within the artificial environment of the classroom. Action research conducted by experienced world language teachers can be done to help determine the most effective methods for reaching their students' language acquisition goals.

The purpose of this study was to find a method of presentation that would result in long-term vocabulary acquisition, and therefore, true learning. The thought was that by changing the instructional method to one that veered from the traditional system of vocabulary presentation, students would no longer need to engage in the unproductive study behavior discussed below.

### Statement of the Problem

Secondary students in world language courses traditionally receive lists of vocabulary in the second language that they are to translate and memorize, externally motivated to study by assessments given by the instructor. It appears that these students have a propensity to study only immediately before they are tested. Although they may do well on a given assessment, they do not, without fail,

remember the words soon after. They seemingly manage to commit the information to their short-term or working memory only for the purpose of successful completion of the test. Although the students have indeed learned the words for that specific purpose and time period, it could be proposed that they have not actually achieved second language acquisition; that is, they will not remember these words long-term.

### Statement of the Hypothesis

A method of presenting vocabulary was explored that was hoped would improve students' long-term retention of learned words; specifically, testing the following hypothesis: Students' long-term retention of Spanish vocabulary would improve if the words were presented in a manner that was experiential, comprehensible, enjoyable, and free of assessment related stress rather than using the traditional method of memorized, tested lists.

### Definition of Terms Used

**Affective Filter:** Part of the brain which blocks or allows input to pass through depending upon affective variables such as level of anxiety or a learner's self-esteem.

**Comprehensible Input:** A linguistic message that the receiver is able to understand.

**Interlanguage:** The developing second language of the learner.

**Interlocutor:** One of two or more people interacting orally.

**L1:** The first, or native language of the learner.

**L2:** The second, or foreign language the learner is attempting to acquire.



**Language Acquisition:** The language a learner is able to access from memory in order to communicate a thought or idea.

**Language Acquisition Device:** An innate, biological device described by linguist Noam Chomsky. Children are born programmed to learn language (Lightbown & Spada, 1999).

**Lexicon:** A word or phrase appearing on a learner's vocabulary list or in the text.

**Monitor:** The editing function of the brain which accesses previous grammatical knowledge to correct a thought before it is verbally expressed.

**Negotiation of Meaning:** The discussion of vocabulary lexicons or grammatical concepts with another interlocutor for the purpose of clarifying understanding.

**Noticing:** The act of becoming consciously aware of the correct use of a word, phrase or grammatical item.

**Output:** A learner's oral or written expression of the second language.

**Proficiency:** The level at which a language learner is able to effectively communicate meaning in the second language.

## Variables

### *Independent Variables*

The independent variables in this study were the methods used for presentation and ultimate evaluation of newly acquired vocabulary. Students were first given a list of vocabulary to memorize. They were then given a test that they knew would have an effect on their grade in the class. The second method of presentation was not a list, but words that the students felt they had acquired through reading. They knew they would not be formally assessed on these words, therefore

that their grade would not ultimately change depending upon their ability to remember these words.

### *Dependent Variable*

The dependent variable in the study was the number of vocabulary lexicons retained for a given period of time.

### *Control Variables*

The first set of variables for which the researcher controlled dealt with the language proficiency level of the students. The test subjects had all had an equal number of years studying Spanish, had not studied Spanish for one full year prior to the study, and Spanish was the second language of all test students. Other variables that were controlled for included their age (all were seventeen), the number of words they were expected to retain (20), and the amount of time they were allotted to acquire the words (2 weeks, followed by 1 month). Finally, the tests included an equal number of male and female subjects, as well as a sampling of three levels of ability in remembering words long-term (high-level, mid-level and low-level).

### *Moderator Variables*

There were several independent variables of secondary interest in this study. For the portion of the study where students were to memorize words, their general study habits could very well have come into play, but were not specifically explored. The students' general reading skills certainly had an effect on their ability to correctly determine word meaning from context, as well as the amount of context they were able to cover in a given time period. These factors would ultimately affect the number of exposures they likely received to each word. Their motivational level for

reading certainly played a role as well. Students who were more enthusiastic readers, it would seem, would set themselves to read immediately upon being given the opportunity, would use their time wisely, and would ultimately receive more exposure to the words being learned as well. Finally, throughout the study, there were days during the reading portion of the study when test subjects were absent, which also affected the level of exposure they received.

#### Limitations of the study

The most obvious limitation of the study was the length of time allowed, one semester (approximately 4 months), to research the question using one particular group of students. The short time frame did not allow for a satisfactory study of long-term memory. Rather, the hope of the researcher was to show that the students' memory of vocabulary taught in the manner described above would have better future output results than those that were learned using the traditional method of memorization, and would be a more enjoyable learning experience for the students.

A second limitation of the study was a lack of technology available to scientifically determine the number of times a vocabulary word appeared within the text, as well as to measure for richness of context to help students determine word meaning. The researcher had to rely upon the students' ability to keep an account of word frequency in their own reading, and to trust that they were able to correctly determine word meaning from context.



## CHAPTER II.

### REVIEW OF RELATED LITERATURE

**In *The Book of Learning and Forgetting* (Smith, 1998), Frank Smith discusses two learning theories that are applied in educational environments and can subsequently be discussed within the context of providing an environment for second language acquisition: The official theory and the classic view of learning. Each describes a particular philosophy of how learning takes place, as well as how it is realized in the classroom.**

#### The Official Theory and Traditional Second Language Instruction

According to Smith, the official theory is that which is most commonly put into practice in today's classrooms. The basic belief of this theory is that learning is hard work (1998). Alfie Kohn, a critic of education's emphasis on grades and testing, agrees. He states that the language used to talk about the field of education can be likened to that which is used in the workplace. Students are said to *generate* products, are *managed* by their teachers, and are motivated to learn by *incentives* (Kohn, 1997). The official theory's basic components include the belief that learning is a challenge, taking place only with time and effort. Instruction is standardized, and teacher-centered procedures such as lectures and drills are employed. Error correction during instruction is immediate and direct. The official theory includes the behaviorist perspective that external incentives such as assessments are needed to motivate learners to do the necessary work. Students are expected to take notes and use rote-memorization techniques to ultimately succeed

in completing a formal test, usually in a written format. The theory favors those assessments that can be measured in a quantifiable, objective manner.

It could be said that the application of the official theory takes place in traditional methods of second language instruction. Traditional methods incorporate the belief that learning is habit formation; that with time and effort students will be able to retrieve isolated grammatical forms and vocabulary stored in their memory. Instruction, which is teacher centered and highly ordered, includes repetitive drills and immediate, direct error correction. The traditional methods focus on specific language forms with the goal of successful completion of assessments such as grammar based, written college placement exams (Omaggio, 1986; Terrell 1977).

### Challenges to the Official Theory

Smith describes the official theory as flawed. Basically, he surmises that when instructional methods adhering to this theory are practiced, learners are merely externally motivated to remember information for successful completion of the assessment. When students consciously work to memorize input they are given, they only manage to commit the information to their short-term, working memory. Since rehearsal is needed to hold information in the working memory, forgetting inevitably begins the moment the assessment, and thus the rehearsal, is finished (Smith, 1998)

### The Classic View of Learning

The principal components of Smith's contrasting theory, the classic view of learning, are that learning is a natural growth process without need for conscious awareness, learning takes collaboration and identification with those who are more experienced, input needs to be comprehensible and interesting to the learner, the

learner must feel confident in their ability to learn, and the learner must feel internally motivated to gain the knowledge (1998).

Smith's assertion that learning is a natural growth process without need for conscious awareness recurs in the writings of other theorists. Stephen Krashen's acquisition/learning hypothesis, for example, reinforces Smith's thoughts.

*Acquisition* or "the picking up" of a language, the theory states, takes place subconsciously, effortlessly and involuntarily. On the other hand, *learning* a language involves conscious memorization of grammatical concepts and vocabulary lexicons. The latter method, Krashen asserts, does not necessarily result in true language acquisition, that is, long-term learning (Krashen, 2003). Krashen, in his monitor hypothesis, does acknowledge that conscious learning has a place, albeit limited, in second language communication. His claim is that learned grammatical concepts occasionally act as a corrective filter, but do not contribute to fluency. The speaker consciously monitors, that is edits, what they are about to say beforehand, using previously learned rules. Of course, one must have the time to undergo this process, which is not typically practical in everyday communicative situations (Krashen, 2003, Terrell 1977). Tracy Terrell states that the traditional methods accomplish exactly what they set out to; that is, students master grammatical concepts and are able to successfully test on those concepts. However, he asserts that these very methods are the reason students of second languages lack basic communication skills and that the most effective way to learn a second language is the way one learned their first language – in natural communicative situations (Terrell, 1977). Communicative tasks focus on the conveyance of meaning rather than on the use of

perfectly correct grammatical forms. A study done by Carol Montgomery and Miriam Eisenstein showed the importance of communicative practice for students of a second language. The subjects of the study were given communicative instruction along with traditional grammar-based instruction. Interestingly, students given the additional communicative instruction not only showed greater improvement overall, they also showed vast improvement in grammatical accuracy (Montgomery & Eisenstein, 1985, as cited in Lightbown & Spada, 1999).

Smith's Classic view states that the basis of all permanent learning is collaboration and identification with those who are more experienced in what is to be learned. The collaborative, interactive aspects of this theory, Smith acknowledges, could be compared with Vygotsky's socio-cultural perspective (Smith, 1998). A portion of Lev Vygotsky's premise was that when learning takes place within a social context with another more capable individual, the learner is able to move from their zone of actual development (ZAD), the skills that a learner is able to perform on their own, toward their zone of proximal development (ZPD), what the learner can do with assistance, in other words, what they are going to learn in their next stage of development (Vygotsky, 1986, as cited in Platt & Troudi, 1997). In addition to collaboration with those more experienced, according to Smith and others, social identification needs to be present. Identification can produce either positive or negative results for the learner. If, for example, the learner receives sought after approval and feels a sense of belonging, that is, social identification with the more experienced learner, they will grow in similarity to that individual or group. Specifically, they will increasingly learn to speak as those with whom they identify



(Tarone, unpublished). Of course, social identification can also produce a negative effect. Judith Liskin-Gasparro observed that when individuals or groups negatively react to the learner it can cause the learner to become self-conscious, impeding further growth. The learner withdraws from engaging in communication with the more capable second language speaker (Liskin-Gasparro, 1988, as cited in Lynch, Klee & Tedick, 2001).

Part of the classic view of learning is the belief that input needs to be comprehensible and interesting to the student for learning to occur. Krashen supports this principle in his input /comprehension hypothesis. He describes comprehensible input as information already understood by the learner “+1”. “Plus one” is new information that the learner is able to associate with, and therefore add to, previous learning (Krashen, 2003). Just as described in Vygotsky’s ZPD theory, the comprehensible, but challenging input, leads the learner to their next stage of linguistic development. A study done by Tarone and Liu reinforces the importance of challenging, comprehensible input. In their study, they examined how a student’s interlanguage (the term coined by Larry Selinker in 1972, which describes a learners’ initial stages of language development) changed depending upon the social context in which he was speaking. What they found was that their subject’s interlanguage was more “productive” when he spoke with the researcher. One possible explanation they offer is that the input provided by the researcher was perhaps more tailored to the subject’s comprehension needs, but simultaneously was more complex than that which was provided by the subject’s instructor. They claim that perhaps the subject’s abilities were “pushed” toward a higher level of competence as a result of

his need to communicate with a greater degree of sophistication (Tarone & Liu, 1995). The idea that challenging the limits of a student's abilities results in the growth in proficiency was also studied by George Yule and Doris Macdonald. The study looked at the effects of pairing two interlocutors given an interactive task. What they found was that when the interlocutor with the lower level of proficiency was given the more dominant role in the task, more interaction took place. The interlocutor with the higher level of proficiency was forced to modify their speech to a level of comprehensibility for the lower level speaker, but still at an advanced level of complexity. More negotiation of meaning (clarifying understanding and checks for comprehension) took place, because the higher level speaker was not able to simply display their adeptness in the language and the lower level speaker was motivated to seek understanding (Yule & Macdonald, 1990).

The final components of the classic view are that the learner must feel confident in their ability to learn what is being taught, as well as feel internal motivation to do so. In Krashen's affective filter hypothesis, he theorizes that affective factors, such as students' confidence in their ability to learn and their level of anxiety raise or lower the affective filter which helps or hinders cognitive reception of the input (Krashen, 2003). Kohn discusses how educators can promote internal motivation for learning. He stresses that we need learning environments that support student engagement in seeking understanding. He believes educators ought to capitalize on students' natural desire to learn, and develop an environment where learning is done for learning's sake rather than for external motivators (Kohn, 1997).

### Challenges to the Classic View of Learning

As with any theory, the classic view is not exempt from questioning. The following are some challenges to the theory as it applies to language learning: Is there value to conscious learning and a systematic focus on grammatical form? Can a natural, classic learning environment be created in the artificial setting of a classroom? And finally, if the official theory is so prevalent in education, does our current culture of learning allow for such a radical change in the way things are taught?

The information processing model of learning, which involves the belief that in order to acquire new knowledge one must first consciously “notice” what is to be learned, theoretically challenges Smith’s idea that learning is unconscious growth (Lightbown & Spada, 1999). The role of direct instruction in grammatical concepts can be described using Merrill Swain’s output hypothesis. The output hypothesis explains the cognitive processes that take place in conscious language learning. In the first element of the hypothesis, the learner, while communicating in the L2, consciously *notices* a “linguistic problem” which may cause them to seek specific information that will help them solve the problem. For example, a student may find they are unable to effectively express a thought or idea in the L2 and may search for a way to do so. A second element, the hypothesis testing function, describes the process a learner may use to seek understanding of a concept. The learner forms an idea (a hypothesis) of what they feel is correct, then seeks examples in their interactions to prove or refute their idea. (Swain, p. 1-11)

An additional criticism to Smith's unconscious learning through exposure, is that through experience, students may learn what is correct and acceptable in the L2, but not what is incorrect or not acceptable. Furthermore, it is also possible for a learner's *perception* of what is correct to be erroneous (Lightbown and Spada, 1999).

The classic view of learning makes the assumption that learning is a natural growth process, but can a natural learning environment truly be created in a classroom? Perhaps a comparison of a natural learning setting, as described by Lightbown and Spada, and a classroom setting, is merited. In a natural setting, learners have a great deal of contact with those more experienced in the language. One implication of the creation of this environment in the classroom would be to cease the practice of offering separate language learning levels. For example, first year L2 learners would be intermixed with intermediate and advanced L2 learners. Given the current educational system, the question arises whether the practice would be logistically possible. If so, would those involved find the practice acceptable or archaic? Furthermore, with the existing separation of levels in the classroom, exposure to the second language may be limited to other L2 learners or to an instructor who is perhaps not entirely proficient in the language they are teaching. In a natural learning environment, there is adequate time for exposure to a wide range of topics, people and situations. In a classroom, one could argue that this variety cannot possibly be achieved given the constraints of time and resources. In a natural setting, a learner's motivation to acquire the second language is, above all else, survival. In the classroom, as Lightbown and Spada point out, teachers do not have complete control over students' motivation to learn. It could certainly be argued that a true

feeling of urgency to use the second language for survival in a classroom environment is at best artificial. In a natural setting, there is no need for testing to motivate an individual to learn, but what would be the repercussions of doing away with testing students altogether? The last question undoubtedly could be a discussion in and of itself. Suffice it to say that it seems to be a primary goal of secondary language education to prepare students for college entry tests. The ability to communicate meaning seems to be a positive side effect.

A final criticism of the classic view comes from Smith himself. He writes that while the practice of this theory would make for an ideal learning environment, the official theory is so strongly engrained in our educational system, that it would take a great deal of community involvement and political action for change to come about.

#### Free, Voluntary Reading

It would appear that there is enough evidence in favor of the classic view of learning to merit further examination in a classroom setting, particularly in light of the perception that traditional methods, which follow the official theory of learning, do not seem to consistently produce satisfactory results. A specific dilemma to examine is encountered in L2 vocabulary acquisition. Secondary world language students traditionally receive lists of L2 vocabulary lexicons that they are to translate and memorize, externally motivated to study for assessments given by the instructor. It appears that these students have a propensity to study only immediately before they are tested. Although they may do well on any given assessment, they seem to only manage to commit the information to their short-term or working memory for the purpose of successful completion of the test, and tend to forget most of the words

soon after. Although the students have indeed *learned* the words for a specific purpose and time period, it could be proposed that they have not actually achieved second language *acquisition*.

To address the problem, a method of input, or a method of presenting vocabulary words, will be explored with the hope of improving students' long-term retention of L2 vocabulary words. Specifically, Stephen Krashen's method, "Free, Voluntary Reading, will be examined in order to endeavor to answer the question: Will students' long-term retention of Spanish (L2) vocabulary words improve if the words are presented in a manner that is experiential, comprehensible, enjoyable, and free of assessment related stress?

The Free, Voluntary Reading method seems to embrace the classic view. The method allows time during class for students to read text of their own choosing without additional assignments or assessments linked to the reading. Like the classic view of learning, the method provides students with natural exposure to comprehensible input in a low-anxiety, motivating learning environment. Krashen has asserted that even if studies find no difference in language development between those that memorize their vocabulary and grammatical concepts and those that acquire knowledge through reading, reading is still a more enjoyable way to achieve that goal (Krashen 1993).

## CHAPTER III

### METHODS AND PROCEDURES

#### Overview

The following research was based upon Krashen's method, Free Voluntary Reading, with the thought that it would provide the students with input that was experiential, comprehensible, enjoyable, and free of assessment related stress. In contrast, it was thought that the research would show memorization of a list of vocabulary to be an example of what Smith described in his Official Theory of learning, and would result in only short-term learning.

#### Research Design / Measuring Devices

To give a more complete view of the study results, the researcher chose to approach the study from three different points of view using both qualitative and quantitative research procedures. Students were tested to find out how many words they were able to remember over a given period of time, the researcher wrote behaviors and comments observed during the research, and finally, students were surveyed to find out what their own reactions and findings were during the research process.

#### *Validity measures*

To ensure that the comparisons of long-term memory of memorized vocabulary lexicons and those acquired from reading were valid, the researcher needed to see to it that an equal number of words were tested and in the same manner.

In addition, an equal amount of time was left between pre-test and post-test for each part of the research.

### *Reliability measures*

To make certain that the test results were consistent, and hence able to be duplicated, students were compared to themselves rather than to others. For example, since students were allowed to choose their own reading material, there was no guarantee that they would receive the same number of exposures to any given vocabulary lexicon.

### *Selection of Subjects*

To test the hypothesis, Spanish level 5 students (age 17 who have studied Spanish since 7<sup>th</sup> grade) were first divided into three groups, determined by their ability to remember vocabulary lexicons they had learned a year before in Spanish level 4. Students in the class who had just completed Spanish 4 in the same year were not included in the data presented, nor were the heritage and native Spanish speakers in the class. All Spanish level 5 students were given the Spanish level 4 vocabulary final exam, a matching test of the same seventy-five words for which the students had been previously held accountable in level 4. The groups were formed using the resulting percentage correct on this test: High-level Group: 100%-80%, Mid-level Group: 79%-50% and Low-level Group: 50%-0%. From each of these groups, 2 students, 1 female and 1 male, were blindly selected, that is, the researcher sorted the names by test result and gender, and then pulled a name from each group without looking at the name of the student. Although students were aware of the basic study,



all students in class received the same instruction as the six test students, and did not know whether or not they were included in the research data.

### Research Procedures: Quantitative Testing

The goal of the first part of the study was to determine the students' capability to remember words taught in a traditional fashion following the Official Theory of how learning ought to occur. That is, they were presented with a list of 20 vocabulary lexicons from their unit of study to memorize. They were externally motivated to do so by being told they would ultimately be tested and earn a grade on their ability to match these words with their English equivalents. The students were consequently given a matching test (Spanish to English), which included all 20 test words, following two weeks of having the list of words in their possession. After this "official" test, a time period of about one month (25 school days) was allowed to pass. At the end of that time period, the students were given an unannounced test on these words using the same format. However, the order of the words was altered to prevent any incidental (trial/ error) memorization of previous answers.

Part two of the study was used to test the hypothesis that words not purposefully memorized would be remembered longer because they were acquired by the learners rather than memorized. The test words for this portion were student generated, and taken from Spanish language novels selected by each individual student from the instructor's library. (For 55 students, approximately 70 choices were available.) Students were told that the reading was simply for enjoyment and general vocabulary building, but that for purposes of research, they were to keep a list of vocabulary that they felt they had learned by reading, along with the English translation. They were

told to attempt to generate a list of 20 words. (See Appendix A for Free Voluntary Reading instructions given to students.) Note that in some instances, students incorrectly translated a word on their Free Reading Vocabulary because they did not correctly understand it in context. The incorrectly translated words were not included in the study with the hope that the error would not be further reinforced. This editing did not significantly decrease the number of words that each student was tested on, as it was a rare occurrence. The students understood that they would not ultimately be held responsible for the words on a graded test. They were instructed to keep track of the frequency with which they saw the word by placing a checkmark next to it on their list each time they noticed it within the text. After a period of two weeks had passed (approximately 30 minutes of reading took place per day), students were asked to turn in their Free Reading Vocabulary lists. From the lists made by each student, an individual matching test was created. After a period of 25 days, the students involved in the research were presented with a second matching test of the same words in a different order. They were reminded that the test would not affect their grade, but was for research purposes only.

#### Research Procedures: Qualitative Testing

During the free voluntary reading time, the researcher took notes of students' behaviors as well as informal (and at times overheard) commentary. The students were not aware that the observations were being taken. The researcher appeared to be reading along with the students to model this behavior. In addition to the researcher observations, students were also surveyed toward the final days of the research to find out what their perceptions were.

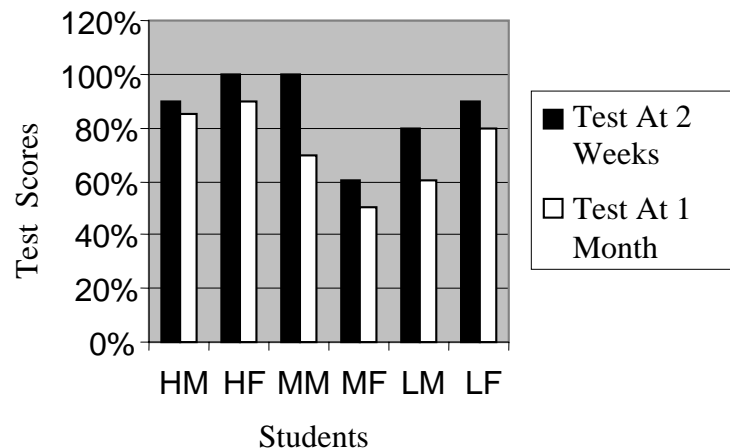
## CHAPTER IV

## RESULTS AND DISCUSSION

The researcher was interested in seeing if the ability for true long-term vocabulary acquisition by the subjects would have a bearing on the end results of research. A representative sample, one male and one female, was taken from each of these three groups: *High level* of acquired words, *Mid-level* of acquired words, and a *Low level* of acquired words. In the research results that follow, the subjects are referred to as H (high-level), M (mid-level), and L (low-level). M and F are used to signify gender, male and female. Triangulation of data collection, a quantitative test, researcher observation and student survey, was used to gain a more rounded perspective of the results. Each result will be discussed as a separate entity. The three will then be synthesized in the summary and conclusion.

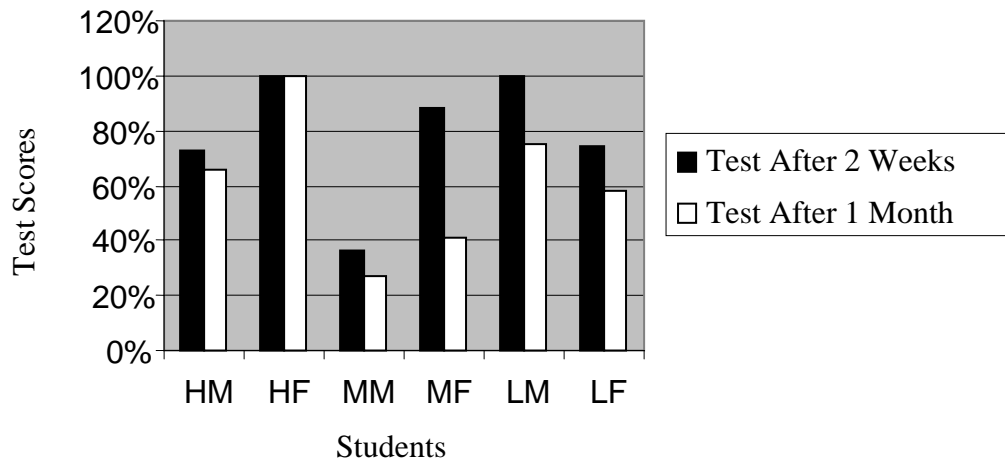
## Quantitative Testing

Figure 4.1: Test Results: Memorized List



The first test conducted was that of the memorized list of words (Figure 4.1). Students were tested after being instructed to memorize their words on their own for two weeks, and were tested again after one month and no further instruction to study. As the graph shows, all of the test subjects' scores dropped. The average loss was 14.2%. The most dramatic were that of the mid-level male, who lost 30% and the low-level male, who lost 20%. The remainder of the test subjects experienced a loss of 10% or less.

Figure 4.2: Test Results: Reading List



The results of the reading list tests can be seen in Figure 4.2. Once again, all of the test subjects showed a decrease in the percentage of words remembered between two weeks and one month. The average loss was 17.5. The most dramatic was that of the mid-level female, who experienced nearly a 50% loss in words remembered. The low-level male and low-level female both experienced a drop of around 20%. The remaining test subjects experienced a drop of less than 10%, the high-level female experienced no loss whatsoever.

Figure 4.3: Difference in Test Scores from 2 Weeks to 1 Month - A Comparison of Both Methods

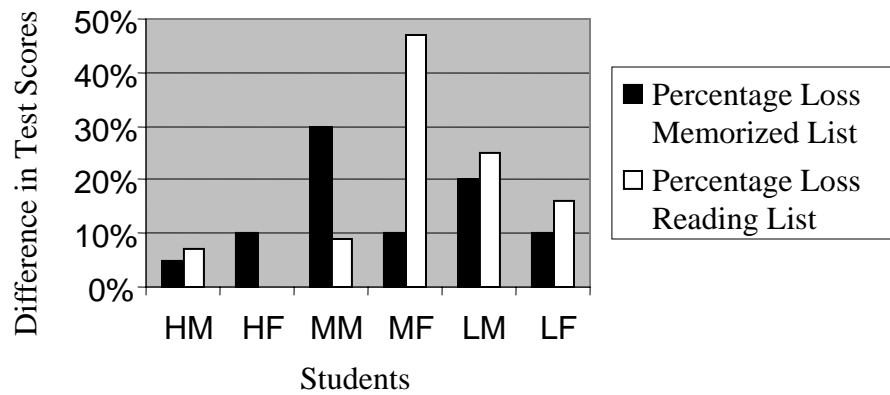


Figure 4.3 shows a comparison in the percentage of words lost between the memorized list of words and the words acquired from reading Spanish text. Both methods showed a loss in words acquired after one month. The loss in words from reading averaged 3.3% more than the loss experienced in memorized words. The greatest differences were experienced by the mid-level male, who actually acquired 20% more from reading, and the mid-level female, whose loss of nearly 40% more in reading was quite significant. The remaining test subjects experienced a difference in loss of 10% or less, each having a slightly greater loss from reading.

Interestingly, the two with the highest percentage of loss in vocabulary remembered for the memorized word list had overall poor performance in class. From the very start, the instructor of the class was left wondering why the two had chosen to take the elective class. At the end of the academic term, the mid-level male had earned a C average in the class, while the low-level male earned a D. Their significant loss in vocabulary remembered likely demonstrated that they had not effectively studied the words from the start, that is; they likely “crammed” the night

before the test took place, which was the problem that had prompted the researcher to conduct the study in the first place. The fact that the mid-level female did well on the memorized tests without a significant drop after a month was not surprising. This particular individual made flashcards the day she received the list, and then set herself to memorizing the words. She diligently came to class early on a daily basis to go through her flashcards. The low-level female had also made flashcards, and was seen studying them quite regularly as well. Both of the high-level students were extremely interested in learning Spanish, and were highly motivated to do well on the tests. In comparing the two methods using the quantitative tests, it is interesting to note that students only experienced a difference in words lost of 3.3% while reading, despite the fact that they did not need to go through the effort of studying these words and did not seemingly need to make a conscious effort to learn them. It is also interesting to note that the high-level female, who reportedly did not care for the reading at all, had benefited from it the most, having experienced no loss in acquired words after one month's time.

#### Instructor Observation of Free Voluntary Reading

The high-level female did not seem terribly enthusiastic about reading, but was cooperative. She picked an extremely difficult book at first, and complained about reading in class. For her benefit, the entire class was reminded of the importance of reading something they found motivating and not too difficult or too easy. That being said, she immediately switched to a fairly easy, short fairy tale. She later commented that she “actually learned something from it”. She has referred to the free reading time as “torturous”.

The high-level male jumped into reading with much more enthusiasm than was anticipated. From what has been observed of him over the last three years, it has taken a great deal of effort to keep him interested and challenged. He chose a difficult book, and immediately set himself to the task of finishing it before the year's end. A heritage speaker was reading the same book in a later class period, so this individual decided he was going to keep pace with the heritage speaker. The level of motivation this individual had was outstanding. Before starting to read in class, this individual rarely did his homework, and now reads without need for prompting. He has also been placing book orders through a book club, which was something he had joked about in the past, calling it "juvenile". He commented that he ordered the book because he is now a true believer in the power of reading and is very excited about what he has learned.

The mid-level female was very quiet and cooperative during reading time. She had never said much in class, mostly keeping to herself. Each day that she saw reading on the daily class schedule, her eyes would light up. She was even observed saying "Oh, good, we get to read today."

The mid-level male started out complaining every day that we "had to read" and needed to be coaxed into cooperation. He started out with a book that turned out to be very different than what the cover made it look to be. Once several new books were ordered, he finally found one that interested him and he had already read in English as well. From that point on, the complaining stopped and he commented, "I enjoy reading books in Spanish. We should continue this next quarter."

The low-level female had a very difficult time with written expression both in English and in Spanish. During the study, she read several books from a genre written for first and second grade native speakers, and seemed to really enjoy it. . She was very cooperative and read intently.

The low-level male's experience during the research was perhaps the greatest success story. This is an individual didn't even seem to want to be in Spanish class, yet he continued to take the elective class. He rarely did his homework or answered in class, and was nearly failing the entire semester. When reading was first started, he would put his head down and sleep. To encourage him to read, he was given a Spanish language magazine (*People*). Little by little, he started to cooperate. Later, he was observed browsing through the regular book selection. Eventually, he started to approach the instructor for help in understanding his reading. By the end of the semester, he commented that by reading, he learned more than he had in his five years of language study. (See Appendix B for detailed observations made.)

When informally questioned, the class overall made several interesting, telling comments regarding the Free Voluntary Reading method. The following is a summary of the comments; a complete collection appears in Appendix C. One student commented that they enjoyed reading in class so much that they had started to read more at home. Several commented on the amount of grammar and vocabulary they learned from the reading in contrast to what they learned from memorized lists or grammar worksheets. They stated that the reading was much more of a "want to" than a "have to" and felt it was a very worthwhile educational experience for them. One student commented that they felt it was the best way to learn Spanish short of



total immersion in the language itself. The more unfavorable comments included one student who stated that she preferred learning vocabulary from memorizing lists, but did enjoy the reading. Several other unfavorable comments were that the books were too difficult or uninteresting to the students. The latter comment was made, in part, by students who didn't seem to understand that they were allowed to change books as often as they pleased if they were too challenging or not motivating to read.

A final observation that the researcher has made is that students who have graduated and come back to visit, have all commented that the reading done during the research in class helped to prepare them for their post-secondary level Spanish courses, that they truly enjoyed the experience, and that they hope the instructor continues this practice with future students.

### Student Survey

Finally, a formal survey was given to all students, including the test subjects. The entire survey, along with class results, appears in Appendix D. The specific purpose for the survey was to find out how much students felt they learned using each of the two methods, as well as their preference for the learning method.

As was stated in the original problem and need for this study, many students (65% of the class) stated that they only remembered their memorized words long enough to do well on the assessment, and then forgot them. This group included every member of the test group. An additional 6% stated that they didn't even remember the words for the test. The remaining 29% felt that they do not forget words once they have learned them for the test. (See Figure 4.4)

Figure 4.4: How Long Do You Typically Remember Memorized Words?

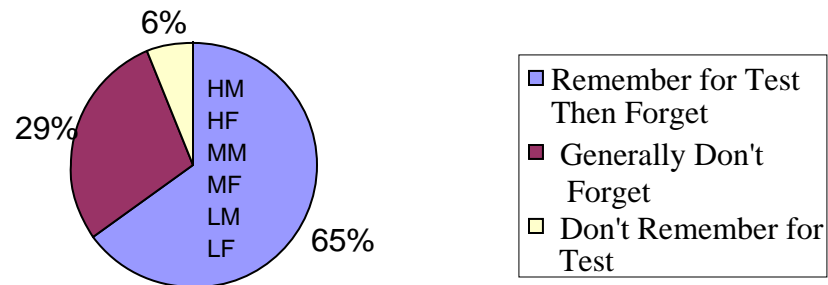
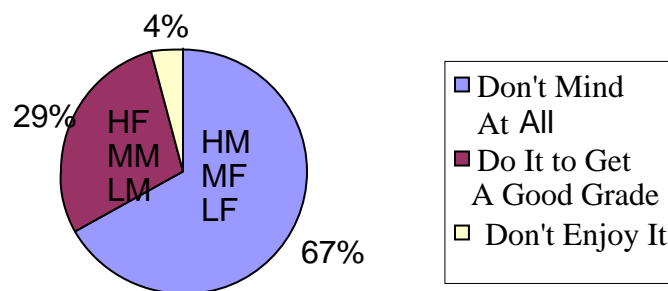


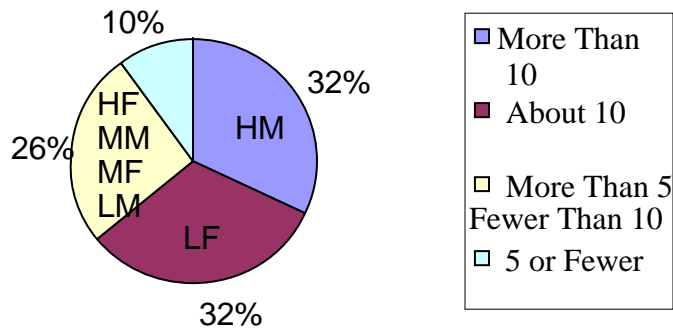
Figure 4.5: How Do You Feel About Memorizing Vocabulary Words?



According to Figure 4.5 above, it seems that the majority of the students, half of the test subjects, were not bothered by memorization, and 29%, the other half of the test subjects, simply felt it to be a necessary part a successful educational

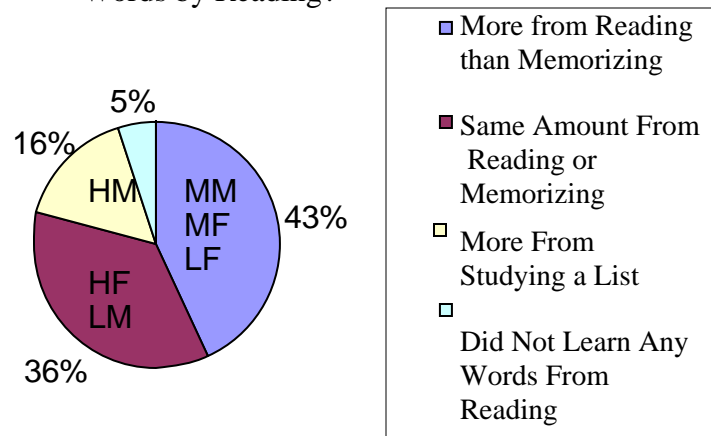
experience. Only 4% found it to be disagreeable. It is interesting to note the diversity in the division of test subjects.

Figure 4.6: How Many Words Do You Feel You Learned From Reading In Class?



Students were also asked how many words they felt they had learned from reading. 64% of the class reported learning 10 or more words. Note that the majority of the test subjects felt that they had learned between 5 and 10 words. Only 10% of the class felt they had learned 5 words or fewer (See Figure 4.6). Students were then asked how they felt about learning words by reading. Figure 4.7 below shows that 16% reported that they learned more from reading than from studying lists. This group included the high-level male. 43% that reported they learned just as much from reading as from memorizing a list of words. Over half the students, then, reported that they felt the reading method was an effective learning tool for them. Included in the 36% which expressed a preference for memorizing lists were the high-level female and the low-level male.

Figure 4.7: How Do You Feel About Learning Words by Reading?



## CHAPTER V

## SUMMARY OF RESEARCH RESULTS

Although the overall results of the study did not prove the hypothesis that the vocabulary acquired by reading was superior to the memorized vocabulary, it was very encouraging to see that there was only a slight difference of 3.3% loss in the quantitative data analysis. The difference seems even less significant considering the students acquired the vocabulary from reading without any need for extra practice in class, study or formal assessment. They simply learned the words in a developmental, non stressful, enjoyable manner. The qualitative data pointed in a positive direction as well. The research results overall were quite satisfying. The data for the discussion that follows is summarized in Table 5.1 below.

Table 5.1: Summary of Triangulated Data Collection

Data Summary	HM	HF	MM	MF	LM	LF
Original test score: Determined High, Mid or Low	91% correct after one year	91% correct after one year	77% correct after one year	72% correct after one year	43% correct after one year	48% correct after one year
% loss memorized after one month	5%	10%	30%	10%	20%	10%
% loss from reading after one month	10%	0%	10%	50%	25%	15%
Learner perception: Memorization	Remember for the test, then forget	Remember for the test, then forget	Remember for the test, then forget	Remember for the test, then forget	Remember for the test, then forget	Remember for the test, then forget
Learner perception: Acquisition through reading	More than 10 words learned. Enthusiastic about reading	More than 10 words. Learned more from memorizing	5-10 words. Learned as much from reading as memorizing	5-10 words. Learned as much from reading as memorizing. Prefers memorizing	5-10 words. Learned more from reading than studying	Approx. 10 words. Learned as much from reading as memorizing
Researcher observations	Chose difficult book and read enthusiastically. Started ordering own books in Spanish to read at home.	Complained she did not enjoy reading at first. By the end said she learned.	Complained a great deal at first. By the end commented he really enjoyed reading.	Very much enjoyed the reading. Commented "Oh good, we get to read today!"	Started with head down on desk. By the end reading and asking for help.	Read enthusiastically. Was quiet and cooperative throughout.

## Conclusions

First, it was interesting to the researcher that the original test used to categorize the test subjects seemed to make no difference in the quantitative data results. For example, the High-level Female, who had remembered 91% of her Spanish 4 vocabulary after one year, had the same percentage loss of memorized words after one month as was experienced by the Low-level female, who had originally remembered only 48% of her Spanish 4 vocabulary. The Mid-level Male, who originally remembered 77% of his Spanish 4 vocabulary words, experienced the highest loss of all the test subjects. In fact, his loss of 30% was 10% higher than that of the Low-level Male. These results seem to point to the possibility that some of the test subjects did indeed “cram” for the test of the memorized vocabulary list (the original problem perceived by the researcher which prompted this study) since their scores did not seem to reflect their ability to remember words long-term. It is also notable that gender did not seem to be a factor in the study, as there were no apparent patterns seen by the researcher in the results.

It was interesting to observe the difference between learner perception and what was actually occurring. For example, the High-level Female, although expressing a preference for memorizing vocabulary, actually fared better on her words acquired from reading, while the Mid-level Female had thought she had better results from reading, when in fact her memorized vocabulary results were far superior (40% difference). The Mid-level Male felt he learned as much from memorizing as reading, yet had a significantly smaller loss from reading (20% difference).

Finally, from the observations of the researcher, although half the test subjects had a relatively negative attitude toward the reading activity at the outset, by the end, all test subjects, as well as the class as whole, had positive feelings toward the activity and felt it was of educational value to them. The research was a success in that a more enjoyable, internally motivating method for vocabulary acquisition was found, and it is the intention of the researcher to continue this activity with future students as a supplement to the “Official” curriculum.

In looking back at the question of whether a Classic learning environment can be created in the artificial classroom environment, the answer seems to be only to some degree. In a true natural environment, learners would have limitless time and exposure to the target language. Their motivation to learn would be survival in that environment. In the artificial classroom environment, the immediacy of need for the language could not be created. Furthermore, testing, which is incongruous with a true Classic learning environment will not likely cease to exist. Students, teachers, administrators, policy makers and the general public have a deeply entrenched belief in the Official theory and have a prevailing need for proof of accountability.

#### Recommendations for Future Studies

The original question, “would students’ long-term retention of Spanish vocabulary improve if the words were presented in a manner that was experiential, comprehensible, enjoyable, and free of assessment related stress” merits further exploration. It is the belief of the researcher that had the students spent more time reading, they would have received more adequate exposure to words and would have indeed acquired more vocabulary from reading than from the memorized list.

During the research, students kept track of the number of times they saw each test word. Unfortunately, most saw the word 5 times or less. Additionally, in future research, it would be interesting to explore how many exposures to a word are necessary for true acquisition, and how much that number actually varies between individual learners.

These final suggestions would certainly veer from a true Classic Learning environment and from the true spirit of Free, Voluntary Reading, but would be interesting to explore. One might test Merrill Swain's output hypothesis to find out if adding an element of conscious learning to the reading process would enhance the long-term memory of the words. Furthermore, it would have been easier to research the reading vocabulary had the test subjects read the same material, allowing for better control of the words being tested. To remedy this in addition to adding a more interactive element to the learning process, future studies could allow for student collaboration in choosing reading material. This way, two or more students could discuss the context of the reading material, as well as negotiate word meaning which, as previously mentioned, had been shown to strengthen vocabulary acquisition. Finally, it would have been valuable to ask students about their study habits when memorizing vocabulary, along with their reading habits in order to factor that information in with the final study results.



## REFERENCES

- Kohn, A. (1997). Students don't 'work' -- they learn. *Education Week*, Retrieved Jan. 19, 2004, from alfiekohn.org.
- Krashen, S. (2003). *Explorations in language acquisition*. Portsmouth, NH: Heinemann.
- Krashen, S. (1993). *The power of reading: insights from the research*. Englewood, CO: Libraries Unlimited, Inc..
- Lightbown, P., & Spada, N. (1999). *How languages are learned*. 2nd ed. Oxford, NY: Oxford University Press.
- Lynch, A., Klee, C. A, & Tedick D. J (2001). Social factors and language proficiency in postsecondary spanish immersion: issues and implications. *Hispania*, 84, 510 - 524.
- Omaggio, A. (1986). *Teaching language in context*. Boston: Heinle and Heinle Publishers, Inc..
- Platt, E., & Troudi, S. (1997). Mary and her teachers: a grebo-speaking child's place in the mainstream classroom. *The Modern Language Journal*, 81, 32-33.
- Smith, F. (1998). *The book of learning and forgetting*. New York: Teacher's College Press.
- Swain, M. The Output Hypothesis: Theory and Research. In E. Hinkel(Ed.), *Handbook of Research on Second Language Teaching and Learning* (pp. 1-11). Unpublished: Lawrence Erlbaum.
- Tarone, E. Speaking a Second Language. In E. Hinkel (Ed), *Handbook of Research on Second Language Teaching and Learning* (p. 23). Unpublished. Lawrence Erlbaum.
- Tarone, E. , and G. Liu (1995). Situational context, variation, and second language acquisition theory. In G. Cook, and Seidlhofer, B. (Eds.), *Principle & Practice in Applied Linguistics* (pp. 107-124). Oxford: Oxford University Press.
- Terrell, T. (1977). A natural approach to the acquisition and learning of a language. *Modern Language Journal*, 61, 325-336.

Yule, G., & Macdonald, D. (1990). Resolving referential conflicts in L2 interaction: the effect of proficiency and interactive role. *Language Learning*, 40, 320-337.

## Free Reading

**Instructions:** On certain days this term, you will be given Free Reading Time.

During this time, you will read a book in Spanish of your own choosing. The book may be selected from those available in class, or you may bring one of your own to read (book orders will be available throughout the year should you like to purchase one). You should pick books that are not too easy or too hard for you. A book will be “just right” when you can understand what is happening, but don’t know every word and phrase in it. If you find yourself needing to look up words in the dictionary just to get a basic understanding of what is happening, the book is too hard. Also, if you find you are not enjoying the book, stop reading it and select another.

If you pick a chapter book, mark your name on it with the post-it color assigned to your class. You may also keep a book mark in the book to keep your page number.

As you read, pay attention to words or expressions you learn through your reading. These should not be words you had to look up in a dictionary, but rather they should be words you were more or less able to figure out from the context of the reading. You may, of course, use a dictionary to verify that your meanings are correct.

As you learn new words or expressions from context, take a moment to jot them down on the paper provided to you. Each time you encounter that word or expression, make a check mark next to it on your list. Try to aim for around 20 words or fewer. Leave this list in class, along with your book.

I hope you find this to be an enjoyable experience! ¡Qué te diviertas!

### **Researcher Observations: Free Voluntary Reading**

**High Female:** This individual did not seem terribly enthusiastic about reading, but was cooperative. She picked an extremely difficult book at first, and complained about reading in class. For her benefit, I reminded the entire class of the importance of reading something they found motivating and not too difficult or too easy. I noticed that she immediately switched books, choosing a fairly easy, short fairy tale. She later commented that she “actually learned something from it”. She has referred to the free reading as “torturous”.

**High Male:** This individual jumped into reading with much more enthusiasm than I had anticipated. From what I have observed of him over the last three years, it takes a great deal of effort to keep him interested and challenged. He chose a difficult book, and immediately set himself to the task of finishing it before the year’s end. A heritage speaker was reading the same book in a later class period, so this individual decided he was going to keep pace with the heritage speaker. He was able to do so by taking the book home at night and on weekends! I was very pleased at the level of motivation this individual had. Before we started reading in class, he rarely did his homework – now he voluntarily takes the reading home! He has also been placing book orders through a book club I belong to – something he had joked about in the past, calling it “juvenile”. He commented to me that he ordered the book because he is now a true believer in the power of reading and is very excited about what he has learned. I have decided to let him keep the book, since he will graduate before he completes it. He seemed very happy to accept my gift.

**Mid-level Female:** This individual was very quiet and cooperative. She has never said much in class, mostly keeping to herself. I have noticed that she lights up when she sees “Reading” on the day’s schedule. I have even observed her saying “Oh, good, we get to read today.”

**Mid-level Male:** This individual started out complaining every day that we “had to read” and I needed to work at coaxing him to cooperate. He started out with a book that turned out to be very different than what the cover made it look to be. I ordered several new books, and finally found one he had read in English. From that point on, the complaining stopped and he commented, “I enjoy reading books in Spanish. We should continue this next quarter.”

**Low-level Female:** This individual has a very difficult time with written expression both in English and in Spanish. She has read several books thus far from a genre written for first and second grader native speakers, and seems to be enjoying it, although she hasn't made any particular comments. She has been very cooperative and has read intently.

**Low-level Male:** My greatest success story. This is an individual who didn't even seem to want to be in Spanish class, yet he continued to take it. He rarely did his homework or answered in class, and was nearly failing the entire semester. When we began reading, he would put his head down and sleep. I started by giving him a magazine in Spanish (People). Little by little, he started to cooperate. Later, I observed him browsing through my books. I eventually was pleasantly surprised when he started to approach me to help him understand something he was reading. By the end of the semester, he commented that by reading, he learned more than he had in his five years of language study!

**Test Subject Comments March 25<sup>th</sup>, 2004****High Group**

**Male:** “The book I’m reading is very difficult, but I understand pieces here and there. I think it does help me learn more about Spanish, especially circumlocution. I enjoy reading Spanish because I am able to learn new words as well as context which is really important. I have to read really slowly to understand what “I think” is going on. I ordered a book from the book order because I really do believe you learn a lot from reading. They say the average person is introduced to / learns 10 new words per day, and someone who reads learns 20 or so. So I figure this must be somewhat true for Spanish too.”

**Female:** “I really can’t stand reading in Spanish. I have no idea what is going on in my book – it is much too hard for me. I thought that the narrator’s parents were dead and that the narrator was in love with Maria, but now the parents talk and he describes Maria as a child. I’m not sure if the parents never died and Maria is the narrator’s daughter or if this is a flashback. Also, I’m on page 7, and the book is about 300 pages long. Last week, I took a break and read a really little Cinderella book, which I liked because I know the story and there were a lot of pictures. I also think I learned more vocabulary from it because I knew the context better. In short, I really want to switch books.”

**Middle Group**

**Male:** “I enjoy reading the Spanish books. We should continue this next quarter but I will need to get a different book that is less challenging. Sometimes I don’t understand what I am reading. Anyway, to make a long story short, I need a different book and the activity is wonderful.”

**Female:** “The book I read was “La Familia Marin”. I enjoyed reading this book because I was able to understand it, but at the same time, it was challenging enough. I would say that the difficulty level is about in the middle. I liked the reading activity. I think it helped me and was also fun at the same time. It was a good feeling to be able to read an entire book in Spanish.”

**Low Group**

**Male:** "I really enjoy this reading project. My book was fun and fairly easy. I thought this book did a good job of keeping my attention. This book was easy enough for me to keep a good pace and understand what I was reading at the same time. This was a worthwhile learning experience. I really liked the fact that I was learning new things on my own."

**Female:** "I like my book. It was very good. It is a fairly easy book to read. I understand the majority of it, even though there are a few words that I don't know. It is a great activity. I've learned a few things from reading the story that I probably would not have learned."

### **Favorable**

I really liked reading my book. It gave me a chance to learn some Spanish in a different way. It was more of an "I want to" experience than an "I have to" experience. I don't have to know every word to be able to know what's happening. I find I can understand a lot of words from the context they're in. I can also think about verbs without having to think about the charts. It's been a good change of pace.

I really think the reading activity helps us in all aspects of Spanish. My writing and speaking skills have definitely improved. Reading gave me an understanding of how certain words flow and the way sentences are formed.

I felt this is a very worthwhile activity indeed! Let's keep doing it.

I really like reading my book. It may be a little too difficult for me, but I think it helps that I have read the book in English. I am trying really hard not to translate every word into English as I am reading it. I think this is a worthwhile learning activity.

I definitely feel this has been a worthwhile activity, but I have already forgotten many of the words I wrote down. I have found that the more I come across a word, the better I remember it later. All in all, reading has been a lot of fun and I prefer it more than memorizing lists.

I really like reading my book and enjoy actually using Spanish. I really feel I am widening my Spanish vocabulary. I have a better understanding of how Spanish is used and finally get that I don't need to understand every single word to understand what is going on.

I definitely have gotten a lot better at understanding the imperfect and preterite tenses. Most of the book is told in the past, so now it's easier to pick up and translate. Even though the activity takes up a good chunk of class time, I feel it is a worthwhile activity especially for those pursuing Spanish after high school. I'm beginning to

understand more of how people talk in Spanish and it seems that every page turns faster and faster.

The first book I read was fairly easy for me to read and understand because it was at a low reading level. I'm now reading one of the Harry Potter books, which is much more difficult, but I have read it in English. Being familiar with the story allows me to pick up on words that I wouldn't have otherwise gotten. It also makes it seem less difficult and makes the process less frustrating. I like reading because it helps me understand the style and grammar of the language better.

I like the reading because it makes me more aware of the way things are written. It also helps me remember the vocabulary that I already know but at the same time I am learning more vocabulary.

As far as the reading goes, I love it. I am an avid reader in English, so I thoroughly enjoy it. I've learned a lot from it. After all, this is the best form of learning a language short of total immersion. The book is quite hard for me, but not impossible and so it is a hugely worthwhile activity. It forces me to use all the Spanish I know. I liked reading in Spanish so much that I started another book at home.

I think this is a great way to learn grammatical concepts. I've really learned a lot.

I definitely think this is a worthwhile activity. I would much rather do this than to sit and do worksheets. I feel I've learned a lot more this way.

This is a good activity. It helped teach me words I didn't know, and reminded me of words I had learned but hadn't seen or heard in a while. It's good to read instead of writing and talking – especially in an early morning class like this one.

I'd like to keep reading in Spanish, but I need to find a lower-level book.

My vocabulary has really grown. The reading time has gotten me more used to reading and understanding Spanish.

I enjoy reading these books during class and I am understanding many things better because of it.

I am a visual learner, so the reading really helps me. It takes a lot of concentration for me to process what I am learning. I think the reading is really beneficial though!

It's great. The more I read my book, the easier it gets!

I enjoy that we spend time reading in class. My book follows closely with the grammar we are studying in class (what a nice coincidence!).

**Unfavorable**

My book is too hard. They use a lot of unfamiliar nouns and verbs, so in order to understand everything I have to constantly look up words and end up taking an hour reading one page. After I finish, I took so long doing this I don't remember what I read and end up starting all over. I do not like reading in Spanish. When I read in English, I'm focused on the plot. This doesn't work in Spanish.

I don't think the books that I read really taught me a whole lot. They were fairly simple to follow, but I didn't really like the way they were written. They got kind of old after a while. I really didn't enjoy reading that much. I don't think I learned as much as I should have for the time I put into it.

All in all, I didn't really like my book. It might have been that it was too difficult. I didn't really understand it. The pictures really seemed to help with the meaning of words. Honestly, I don't think I gained much by reading it. Most of the words that I found and understood were cognates. Other than that, I learned a few articles of clothing. I tend to read things slowly, over and over, so I'm only at the beginning of the second chapter.

The activity was just "ok". I think I would have enjoyed it more had I really been interested in the book I was reading.



## Survey Results: Vocabulary Learning Methods

Key: H=high-level M=mid-level L=low-level

M=male F=female

1. What is the main method you use to study a list of vocabulary?  
Flashcards (38% ) MF, LM, LF  
Reading the list (54%) HM, HF, MM  
Other (8%)
2. Generally speaking, how effective is your method of study?  
Very effective (90%-100% correct) (48%) HM, MF, LM  
Fairly effective (80%-90% correct) (46%) HF, MM, LF  
Not effective (Less than 80% correct) (6%)
3. How long do you typically remember memorized words?  
I generally don't forget them once I've memorized them. (29%)  
I remember them for the test, and then I eventually forget them. (65%)  
ALL  
Other (6%)
4. How do you feel about memorizing vocabulary words?  
I don't mind at all. (67%) HM, MF, LF  
I only do it in order to earn a decent grade. (29%) HF, MM, LM  
Other (4%)
5. How important do you feel testing is to motivate you to study?  
I don't think I really need a test to motivate me to study.(9%) HF, LF  
I would still study with no test, but not as much. (44%) MF  
My main motivation to study is the test. (47%) HM, MM, LM

6. Which of these methods do you feel is more effective for learning new vocabulary?  
Reading (books, magazines, classroom materials, etc). (31%) HM  
Using a memorization technique (55%) HF, MF, LM, LF  
Other (Please specify) through conversation. (14%) MM
7. How much vocabulary do you feel you learned while reading in class?  
More than 10 words (32%) HM  
Around 10 words. (32%) LF  
More than 5 words, but less than 10. (26%) HF, MM, MF, LM  
Less than 5 words (10%)
8. How do you feel about learning words by reading?  
I think I learn more than I do from studying a list. (16%) HM  
I learn just as much from memorizing lists. (43%) MM, MF, LF  
I learn more from memorizing lists. (36%) HF, LM  
I did not learn words from reading. (5%)
9. How well do you think you'll remember the words you learned from reading in class?  
I'll eventually forget some of the words, but not all of them.(70%) ALL  
I'll remember for a while, but eventually I'll forget all of them. (23%)  
I haven't really learned any words. (5%)
10. How do you feel about reading in Spanish?  
I enjoy it. (78%) HM  
It's ok. I could take it or leave it. (14%) HF, MM, MF, LM, LF  
I don't enjoy it much at all. (8%)
11. If you had to choose from the following ways to learn vocabulary, which would you choose?  
I would like to read and have no test. (20%) HM  
Read and to be tested on the words as well. (24%) HF, MF, LM, LF  
I would like a list to memorize, but not be tested on them. (24%) MM  
I would like a list of words to memorize and be tested on them. (32%)
12. In general, do you feel students need to be tested in order to learn?
  - a. Yes (74%)
  - b. No (26%)

WILL SMART CENTERS ALLOW KINDERGARTNERS TO LEARN  
INDEPENDENTLY AND STAY ON TASK?

By

MICHELLE SPITZACK

B. A. UNIVERSITY OF WISCONSIN STOUT, 1979

A capstone submitted to the

Faculty of the Graduate School of Winona State University  
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Department of Education  
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This capstone entitled:

Will Smart Centers Allow Kindergartners to  
Learn Independently and Stay on Task?

Written by Michelle Spitzack

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Date \_\_\_\_\_

The final copy of this capstone has been examined by the signatories, and we find that both the content and the form meet acceptable presentation standards of scholarly work in the above mentioned discipline.

This project is affectionately dedicated to my family:  
my husband Brad,  
and my three children Joshua, Hannah, Logan

Thanks for giving me the time to experience this opportunity.  
You have been patient with the many sacrifices.  
Back to family first!

Spitzack, Michelle (M.S., Education)

Will Smart Centers Allow Kindergartners to Learn Independently and Stay on Task?

Capstone directed by Dr. Thomas Sherman

#### Abstract

Education has changed over the years from the one room country school house where all children are taught the same way to today's prototype of inclusive teaching and allowing each child to work at their own pace and specifically on what interests them. It is our job as teachers to intrinsically motivate our children to get excited about learning. Teaching Kindergartners in a large group setting as well as assuming that each child will learn the exact same way can be unproductive. Using Howard Gardner's theory of multiple intelligences is one way to individualize a child's learning and allow him or her to try different approaches to areas of study. This study involved 18 students participating in multiple intelligent centers ("Smart Centers") built on thematic units. After working at each center the students were asked to fill

out a short evaluation of that center giving their opinion as to how they felt about that particular smart center. The number of student interruptions and “quiet down” reminders was tabulated to compare the previous 3 small group centers to the new 12 multiple intelligent individual centers. The research was put together to see if these smart centers based on the thematic units would enhance and motivate the students to stay on task as they worked through the centers. The project was found to be extremely successful.

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## CHAPTER I: INTRODUCTION

### Need for the Study

Over the decades the education of our youth has changed considerably. The early 80's represented a time of 2-parent, functional families. It was a time of stay-at-home mothers and focus on the family. Preschools had not become popular yet so Kindergarten was a child's introduction to formal education. There were no computers in the homes and children came to Kindergarten only every other day. Parent volunteers were in abundance and special needs children were rarely in the classroom. The word "mainstreaming" was a term just coming into being. There were very few Paraprofessionals. Most of the help teachers received came from parents giving of their time to help out in the classroom. Learning was done in a whole group setting. Station work or learning centers were relatively new concepts that very few teachers incorporated. Teaching to the individual's interest was almost unheard of.

Almost two and a half decades later, classrooms reflect quite a different story. Children come to Kindergarten every day for a full day. Some students have had preschool, others not at all. There is a broad spectrum of knowledge in the classroom. Class size has increased but parent volunteers are rarely seen in the classroom. Paraprofessionals are limited to working one-on-one with mainstreamed special needs students or in a Title One program. Children of the 2000's are growing up in a fast paced world of

computers and electronic games. Our classrooms are more diverse with students using English as a second language. Our job still remains the same: to provide an instructional environment where all children can learn to the best of their ability. Arrays of personalities and changes in our school budgets have caused teachers to develop new approaches to learning and new teaching techniques. Educators need to supplement the good things they already do with ideas that will reach the variety of students they now have. Smart Centers, also known as Multiple Intelligent Centers can possibly do this.

#### Statement of the Problem

Kindergartners come to the classroom with a variety of abilities. There are young five year olds and mature six year olds. Some have had preschool and others are just beginning their educational journey. The ability to work independently is very likely or conceivable for some and impossible for others. Considering these facts, teaching in a large group setting or even in small groups of 5-7, can be very futile. We know that children learn differently so to teach each child the same is ineffective and frustrating for the students. This can bring about a noisy and distracting classroom, thus preventing quality learning.

#### Purpose of the Study

The purpose of this study was to determine if a variety of prepared Smart Centers would improve the productiveness of a classroom. Specifically, could the independent working centers reduce interruptions to a

teacher working with a small group of children on reading? Will research show that working individually at a Smart Center reduces the noise level of the room? Tests will also show how the children react to working autonomously and if taking responsibility of their own work improves the constructiveness of the classroom.

### Statement of the Hypothesis

Kindergartners will work individually at two Smart Centers per day. Center work will be based on Gardner's multiple intelligences. Students working alone at a center will show more independence and ability to stay on task than those students working in small groups of 6-7 students.

### Definition of Terms

Multiple Intelligences – Howard Gardner's theory that proposes that we come to knowledge in different ways and that some of us are stronger in particular ways of knowing than in others. It maintains that all of us who are normal human beings actually process information, in a variety of ways, each of us combining those ways in a unique fashion. (Nicholson-Nelson, 1998)

Smart Centers – Learning areas set up in the room based on Gardner's multiple intelligences. Each center incorporates the Kindergarten standards and integrates across the curriculum reading, writing, science, social studies and math.

Word Smart – reading, writing, telling stories, memorizing, thinking in words

Numbers Smart – math, classifying, problem solving, patterning,

Art Smart - drawing, mazes, puzzles, designing, building, creating

Body Smart – athletics, dancing, acting, crafts, moving around, using tools

Music Smarts – singing, rhythms, tones, humming, playing an instrument

People Smart – understanding people, leading, having friends, joining groups

Self Smart – understanding self, working alone, reflecting, self-interests

Nature Smart – identify flora and fauna, exploring living things, farming, hiking

Learning Center Time – 20 minute time periods for children to work either independently at a Smart Center (two per day) or in a small group with the teacher.

Report Sheet – A simple evaluation that the children filled out after working at a smart center. This information showed their interest level in the center.

### Variables

The independent variable of this study is running learning stations with small groups of 6-7 children. Before introducing smart centers, these groups of children worked together without adult assistance. The control group is the class that began working in Smart Centers at individual learning areas. The dependent variable is the number of interruptions to the teacher working at their group and also the noise level of the room. Control variables included the students all being in the same classroom with the same teacher. Everyone received the same instructions for the centers. Moderator variables that could have played a part in the results were differences in the number of boys and girls and the ages of the children. Some were 5 years old and others 6 years old.

### Limitations and Delimitations of the Study

This study compared room productivity of learning stations of 3 small groups of 6-7 children working as a group to Smart Centers, which involves children working independently at 2 smart centers per day for 6 school days. All of the children worked in both types of station centers but different results of success or failure could have come about due to several factors. Individual differences in children that is impossible to have any control over such as amount of sleep the children got the night before, what type of health or mood they were in, or interruptions in center time due to school wide assemblies or visitors coming to the room unannounced. The time constraints of the project may have limited conformability for all children. The project ran 2-3 weeks. More time would have allowed for all children to feel comfortable with the new centers.

## CHAPTER II: REVIEW OF RELATED LITERATURE

Howard Gardner introduced the multiple intelligences theory to us in 1983. The theories were presented in his book, *Frames of Mind: The Theory of Multiple Intelligences*. This book began as a project started because of a grant provided to some Harvard Graduate School researchers in 1979. The purpose was to work on the nature of human potential and how it could best be catalyzed. Gardner's assignment was to write a book about what had been discovered about human cognition through discoveries in the biological and behavioral sciences. This led to his theory of multiple intelligences. He derived his theory from extensive brain research. His research suggests that intelligence is centered in many different areas of the brain, which are interconnected, rely upon one another, can work independently if needed, and can be developed with the right environmental conditions. (Nicholson-Nelson) As educators, we know that children do not all learn the same way. Also we are not born with all the intelligence we will have. Intelligence is learned and can be improved upon throughout our whole lives. Educators should take on the challenge to find the strengths and weaknesses in their students and to channel that information to increase learning and meet the needs of all their students.

Smart Centers can help a teacher in a more personal way. As stated earlier, school budgets have taken a drastic cut and one effect of this has been the removal of educational assistants from the classroom. It's believed to be easier to teach in a small group setting versus large group instruction

and with no other adults in the room, leaving children on their own in a small group can often result in a noisier, less productive work time. Smart Centers will allow for more individualized learning centers that will cause each child to be solely accountable for their work time. The added responsibility will require the students to stay on task and accomplish the goal of the center. The centers were arranged to use Gardner's eight human intelligences, which are referred to as "smarts". Here is a brief description of each smart and also a learning style to go with each one.

1. Verbal/Linguistic or Word Smart – This intelligence involves the use of language and words, whether written or spoken. This type of learner likes to play with words in reading, writing, and speaking.
2. Logical/Mathematical or Math Smart – This intelligence uses numbers, sequencing, and patterns to solve problems. This type of learner likes to experiment with and explore numbers and patterns.
3. Visual/Spatial or Space Smart – This intelligence pertains to the use of shape, color, and form and the relationships among objects. This type of learner likes to put his or her visualizations into drawing, building, designing, and creating.
4. Bodily/Kinesthetic or Body Smart – This intelligence uses the body for self-expression. Coordination, dexterity, flexibility, and strength are all important in this intelligence. This type of learner likes to move, touch, dance, play sports, do crafts, and learn through movement and touch.



5. Musical/Rhythmic or Music Smart – This intelligence deals with pitch, tone, and rhythm. This type of learner likes to sing, hum, play instruments, and generally respond to music.
6. Interpersonal or People Smart - This intelligence is the ability to deal with other people. It involves one's ability to perceive what another person is thinking and feeling through body language and gestures. This type of learner shares, compares, cooperates, has lots of friends, and learns with and from others.
7. Intrapersonal or Self Smart – This intelligence involves a self-knowledge, being able to identify one's own feelings and moods. Self-esteem and self-discipline are both particular to the intrapersonal intelligence. This type of learner works alone at his or her own pace, producing original, unique work.
8. Naturalist or Nature Smart – This is one of Gardner's newest intelligences. Categorizing and classifying the world describe this intelligence. This type of learner tends to understand nature, and can make distinctions, identify flora and fauna, and enjoys activities such as hiking, hunting, farming and biological sciences.

As Gardner was working on these theories he was working as a psychologist, but as this project progressed and the intelligent theories became so popular he realized that he needed to say something about the educational implications of multiple intelligences. It was educators and not psychologists that found these theories most interesting. Gardner claimed that all human beings possess not just a

single intelligence but are better described as having a set of relatively independent intelligences. It was assumed that we focus more on the linguistic and logical intelligences—the intellectual strengths. Looking at all the other intelligences we realize the full potential of each child. While we all have these intelligences or smarts, we know that individuals all differ for both genetic and experiential reasons, which explain the strengths and weaknesses of our students.

Gardner's book created quite a buzz in the educational world. It was to Gardner's surprise that multiple intelligences survived the transition to the 1990's. Because of this he wanted to take on more activities to his theory. He conducted more case studies on children who stood out as remarkable in terms of their particular profile of intelligences. This led to three new books, *Creating Minds*, *Leading Minds*, and *Extraordinary Minds*. It was at this time that he started to extend his theory. He came up with the Naturalist Intelligence at this time and is even working on a possible Existential Intelligence (the intelligence of big questions). He also came up with three distinct uses of the term "intelligence":

- A property of all human beings
- A dimension on which human beings differ
- The way in which one carries out a task in virtue of one's goals.

Another activity that demanded Gardner's attention was occurring in the middle of the 1990's. He noticed people were misinterpreting the theories. He didn't want the intelligences labeled as learning styles. He didn't want children labeled as excelling in certain intelligences or smarts and then limiting them to that domain.

Rather he wanted the children to be able to learn in all smarts. Gardner became more active with schools by helping them to implement multiple intelligences practices in their educational programs. This led to a surprising conclusion. Multiple intelligences in and of itself is not an educational goal. Our goals are reflected by our values and these cannot come from a scientific theory. But once we know our values and state our goals, then multiple intelligences or smarts will be very helpful.

Gardner looks ahead to the future and sees a possibility of new intelligences to come. He sees interest in an emotional intelligence, spiritual intelligence and a sexual intelligence. A colleague of Gardner's even proposes an existence of a digital intelligence. It's something to watch for in the years ahead.

## CHAPTER III: METHODS AND PROCEDURES

### Overview

This project was designed to compare Kindergartners working at group stations with 6-7 children to students working independently at individual smart centers. It was proposed to see if working independently on review material would allow for more accountability and responsibility to the students. Thus this would reduce the noise level of the room as well and cut down on interruptions to the teacher working at their own station of children on reading. Another goal was to assess the student's interests in the various multiple intelligent centers to capitalize on their specific interests in learning and thus provide an enthusiasm to stay on task with their work.

### Research Design

Before beginning the project of smart centers, statistics were recorded to reflect behavior and noise level of the room with the present 3 learning stations of groups of 6-7 children. Each group takes 20 minutes to work with the teaching on reading. Each group also works at 2 other tables set up with curriculum material usually thematically based. The children work at each of the 3 different tables for 20 minutes. Concerning the children working in groups at other tables, interruption for needed help by the teacher was logged as well as the number of times needed to quiet the children working in other small groups. (Appendix A). After communicating with parents, the project was set up. Twelve smart centers were created and implemented. Areas all around the room were set up. Tables were used as well as nooks and crannies around the room and Kindergarten hallway. The teacher still kept her table for working with a select group of students on reading. The other children worked

individually at one of 12 smart centers for 15-20 minutes. After this they rotated to either another smart center or to the teacher's table. In all they did two smart centers per day.

### Subjects

The participants of this study involved 19 Kindergarten students. One Kindergarten teacher presided over the room and there was one full time Paraprofessional in the room. The school resides in a small town predominately Caucasian and middle class. The school is considered a Title One School due to a high rate of free and reduced lunch participants. There were two Hispanic children but neither was involved in the English as a Second Language program. Two children qualified for Title One services and two other children were considered Early Childhood Special Education students. Out of 19 students, 18 of them participated in the research project.

### Instruments/Measuring Devices

Before the project began the learning stations in progress were assessed for interruptions to the teacher as well as a tally was created for the number of times the teacher needed to quiet the children. (Appendix A) Another data sheet was created during the smart center station time to log the number of interruptions and times needed to quiet children. Comparisons were looked at to determine if the project was a success.

It was essential to introduce the 18 Kindergartners to the new centers set up in the room and talk with them why things were changing. It's necessary to be sensitive to 5 years olds and their ability to handle transitions. Kindergartners want to feel

comfortable in the room they're accustomed to even though things are being stirred up. A parent newsletter (Appendix B) was sent home to parents about the new undertaking in the classroom. Along with the newsletter was sent a survey for the parents to fill out on their Kindergartner. It was titled Parent Questionnaire for Multiple Intelligences (Appendix C). The surveys were to be returned a week before the project began so the teacher could add these results to the other evaluations filled out for the centers. The children also filled out a Student Questionnaire for Multiple Intelligences. For this task, a class of fifth graders came to the classroom to sit one-to-one with a Kindergartner and asked them the questions and filled out the answers for them. (Appendix D).

Once the project began the teacher needed a document to assess the interest of the students during the center time. A form was created for the children to fill out after each center. This gave the student's name, the date, the center area the student was at and their opinion was given by circling a "1" for high interest to a "3" for low interest. (Appendix E)

### Validity Measures

One purpose of this study was to compare students working in small groups of 6-7 students to students working individually at a smart center. Are children able to work independently and stay on task by working at a smart center? Another reason for the project was to capitalize on the student's individual interests using smart centers incorporating the multiple intelligences we all possess. The internal validity of the study is strong in that the same children participated in both comparisons. They

were all familiar with station time so they understood the rotation process and the working areas. They worked with the same teacher and surrounded by all the same children. Station time remains the same everyday. External validity is more difficult to measure due to the children's ability to process information and their individual attention span. Some children were very capable of doing all the center work alone. Others struggled even though it was review material. Another facet of the project involved filling out an evaluation form. Some children's fine motor skills are more immature than others and the writing took a long time.

The project was very successful overall in that it lowered the noise level of the room and provided more responsibility to the students thus creating fewer interruptions to the teacher, but individual differences in children need to be accounted for each year.

### Reliability Measures

Certain aspects of this study were very reliable while others will need reassessing and reviewing each year. The children knew where to go each day because the smart centers remained in the same place over the weeks. Only the material changed each 6 days. The children were able to read their plan sheets and they also remained in the same place over the study time. Center time was conducted the same time everyday so the children were accustomed to the schedule. Individual moods and the health of the students that day may affect reliability, but every effort was made to keep things as normal as possible.

### Procedures

For a beginning lesson the children brainstormed on what “being smart” means. They came up with a list that incorporated all of the 8 smarts being introduced. After the introduction, the next 8 days were spend presenting a new smart to them each day by preparing one of the learning stations to focus on one of the 8 smart centers. When the children had been introduced to all the smarts, they were ready to use the smart centers in their daily work time. Centers were set up with necessary materials, space and time needed to peak the children’s interest and challenge them to become more involved in their learning as well as strengthen their personal intelligence. The teacher continued the table of a small group of 6 children, while the other 12 children had the opportunity to explore the 12 centers incorporating the 8 smart domains. At 15-20 minute intervals, the students rotated to either a new smart center or to the teacher’s table. Center time lasted about 70 minutes each day. By the end of center time each child had worked at the teacher’s table and 2 smart centers each day. At the end of each smart center the children filled out a form telling the teacher their name, the date, what center they worked at and their interest level by circling a “1” for high interest to a “3” for low interest. (Appendix E). These evaluations gave the teacher more of an indication of each child’s interest in that particular intelligence as well. Tallies were kept on interruptions to the teacher and the noise level of the room. The project ran for 3 weeks with center materials changing every 6 school days.

### Conclusion

This project was presented to test student’s ability to work individually at the smart centers. They were familiar with working at a station, but the change was that



now they were working independently. The goal was to compare their ability to work in a group to working alone. The gains that were hoped for and achieved were for more accountability to the students resulting in fewer interruptions to the teacher as well as a quieter, more productive classroom.

## CHAPTER IV: RESULTS AND DISCUSSION

Before this study began, a discussion was held with the children on what it means to be smart. The children brainstormed with the teacher and listed the various ways that they can excel in their learning. Most of the responses centered on reading and math. As they continued their dialog, the children started to see that they can stand out in many other ways, thus creating the various smart centers for the children to explore and experiment with. It was important to the instructor to make sure the children understood the process of smart centers so at the end of April there were preview lessons given explaining the various smarts or intelligences. Each day a new smart was introduced with an activity added that went along with that smart. Over the next 8 school days, all of the smarts had been introduced which allowed the children to see a mixture of ways to teach a certain curriculum area. Once the smarts were introduced, it was time to set up the 12 centers. There were plans for 2-3 weeks of school. These plans focused on themes and units the class was working on and used all eight multiple intelligences. (Appendix F)

A method was needed for the children to direct them to the proper center two times a day. It needed to be an easy form for them to read. Each center also needed to be labeled in the proper way so the children knew where that certain center was. Colored shapes were chosen for one plan sheet. These included red square, purple star, orange diamond, yellow circle, blue rectangle and green triangle. Six of the centers were labeled in this same way. The children had numbers 1-6 written on this plan sheet in such a way that there was only one child at each center per 20-minute station rotation. For their second center rotation, the children looked at another plan

sheet. This one included six animals, which corresponded to 6 areas in the room labeled with these same animals. These included a rabbit, dolphin, pig, frog, ladybug and a fish. On their plan sheets, the animals were labeled A, B, C, D, E, and F. This alleviated confusion between the two center times. The children looked for a number center and a letter center each day during center time.

At first several children needed guidance to get to their centers. They had done this type of moving around with the stations before, but having 12 centers just seemed to confuse them at first. The teacher gave sufficient time and plenty of help the first week to ease the children in finding their center area. There needed to be a process of evaluating their performance and interest at each center as well. The children carried a file folder around with them during center time. It was labeled their “Smart Folders”. Inside the folder was a recording sheet. (Appendix E). The children filled this out each day. It included both their centers for the day. They wrote their name, date, and the center they worked at. Then they circled the number that best described how they felt about that center. The number could include if they like the center or how they felt they accomplished it. Since there could be some discrepancy here, the teacher followed up with a personal one-to-one conference two times a week with each child. This was brief, but gave the extra information needed to get more of an indication of where the child’s strengths and weaknesses were and their favorite way to learn.

One lesson plans worth of smart centers carried the class through 6 days of centers, which meant a week and a half of school. Data was collected to keep track of 2 lesson plans of smart centers. It was felt that this was enough information, along

with daily observations and discussions with the children to get an indication of which intelligence each child was strongest at. It could also be told which smart areas were not as interesting to the children.

## CHAPTER V: SUMMARY AND CONCLUSION

### Summary

Multiple intelligent centers in a classroom require great planning and extensive set up for an instructor. The initial phase of the preparation is time consuming, but once materials are gathered, time schedules are arranged, and children are indoctrinated to the new centers, there's an organization about the room that is exciting because the children are working at their pace and interest level. They are accountable for their work and the instructor becomes more of a facilitator, helping and guiding the children to learn.

A factor that had to be contended with at the beginning of each new lesson plan was the introduction of each of the 12 centers. It took more time than what was been planned for. It was necessary to help the children to understand what the center entailed. At the same time, discretion was used so that the explanation would hold their attention. A 10-minute introduction was given on the first day, knowing that reminders would be needed throughout the six days for some of the children. Using the smart centers greatly reduced the amount of interruptions that occurred in the classroom. By the second week, most of the children knew where to go for each center without guidance. The material set up was always a review of what was taught already so most children could handle the center with minimal help. If needed, some children were assigned the task of assisting others that needed simple help. The tone of the room changed as well. Since each child was working independently, the noise level went way down and the only talking that occurred was when a child went to another child for some direction on how to do a certain center. Center working time

does not need to be a silent time. Much learning occurs through interaction with other students. Children knew that they could interrelate with others as long as they were not disruptive to children working in centers close by.

### Conclusion

There was a definite increase in the pride the children took in their work. They were more responsible for what they did and thus taking the ownership, they worked hard to do their best. With the original three stations when six children worked together, there seemed to be more of a need to copy other's papers or at least check to see what their neighbor was doing before marking down their answer. With hands-on-activities, there was more creativity in building patterns and/or designs. With art projects, the children expressed their individuality more and fashioned projects that showed their true personality.

The instructor and the children appreciated the mini-conferences. At these times, there were more probing questions that gave the instructor more of a feel for the student's "smarts". Questions were asked about their scoring on the report sheets. Some children self-corrected themselves during this time; possibly because they didn't understand the center or maybe they were rushed to fill out the report sheet. It was during this time that support was given that they needed to gain a deeper understanding and self-confidence to work on something new.

The data that was collected clearly shows that multiple intelligent centers can be used in a Kindergarten setting. Implementing these theories will bring about a child's strengths and weaknesses and allow for a teacher to capitalize on this and make learning more fun and successful for the students. An organized, well-prepared

classroom where children take more responsibility for their learning is a dynamic classroom. It's not always quiet or clean and tidy, but you can see and hear learning take place.

### Recommendations

Multiple intelligent centers or smart centers are a wonderful way to teach Kindergartners. The study showed some changes that needed to occur. The parent and student survey will be shortened. When parents were asked to return the surveys, only a few were returned. It was felt the reason for that was the lengthy survey layout. The survey will be reviewed and pared down to be more concise. Another change is the report sheet the Kindergartners filled out. It took more time for the student's to fill this out than was planned for. Some children were more concerned about filling out the report sheet than they were about completing the center work in the appropriate way. The forms will be refashioned so that children need only circle the necessary information. The data needed is what the children think of the center and their performance. That can be accomplished when they circle a number on their report sheet.

The personal conferences with the children will definitely continue. It was during this time that most knowledge was gained about the children's strengths and weaknesses in each smart as well as how they felt about working in a certain smart.

With 18-22 children in a classroom it is impossible to teach individually to each child. Teaching whole group all the time is ineffective and unproductive. Smart Centers allow for many dimensions to the student's learning. It gives the opportunity to reach each student with an interest for them that will provide enthusiasm for

learning. They may struggle at some centers, but by providing the multiple intelligent centers, it allows each child to be successful in some ways and gives them a chance to grow in all their intelligences. Learning can occur in so many facets.

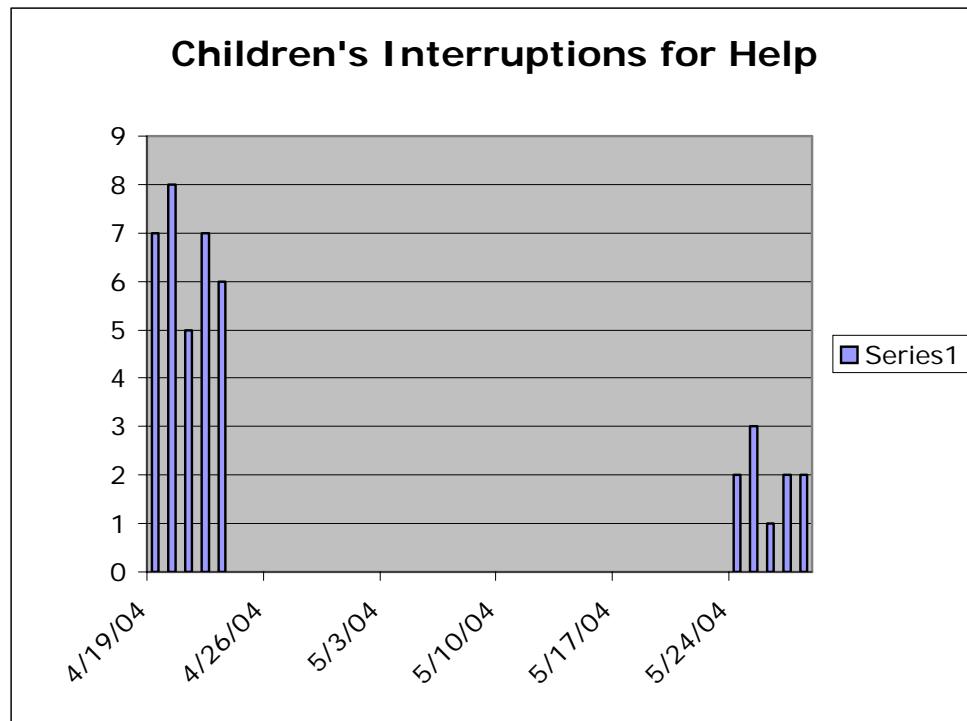
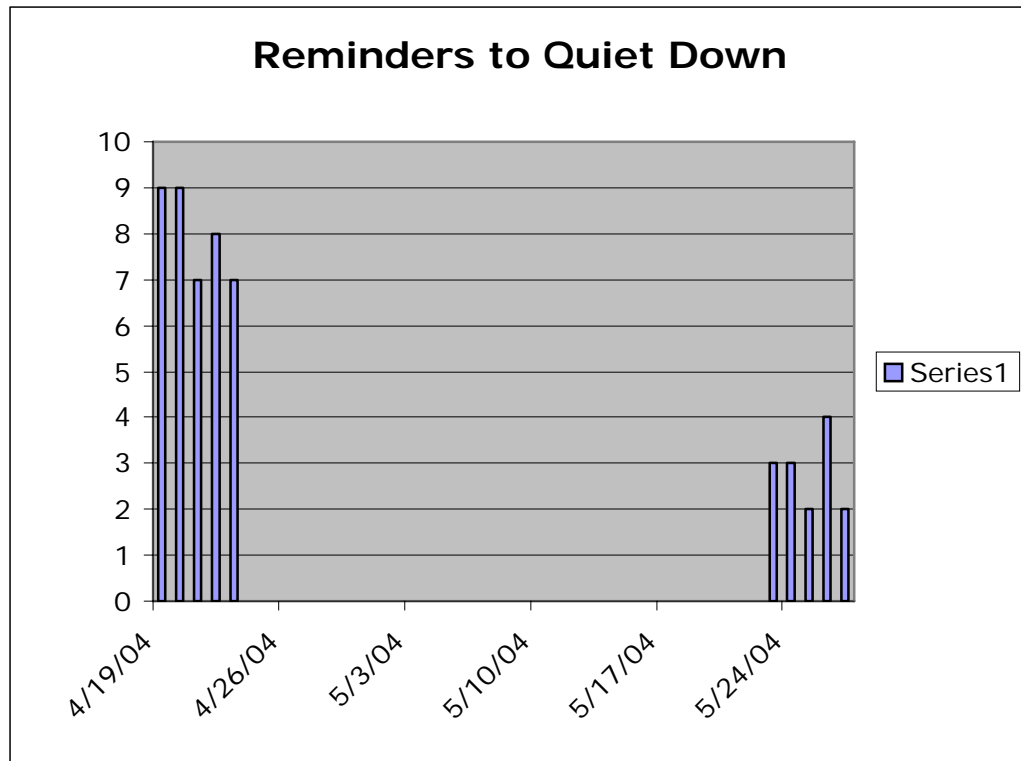
The multiple intelligent theories did not change what was taught, but it did vary how things were taught. Seeing all the different ways children could learn should make educators realize that they have an obligation to choose different ways of presenting information and lessons. By doing this, more students will truly understand what is being taught to them. Gardner tells us that if a student is to understand deeply, they must immerse themselves in subject matter, learning to think of it and to approach it in a variety of ways.



## CHAPTER VI: REFERENCES

- Armstrong, T. (1993). *Seven Kinds of Smart: Discovering and Using Your Natural Intelligences*. New York: Plume/Penguin Books.
- Armstrong, T. (1994). Multiple Intelligences In The Classroom. Virginia: Association for Supervision and Curriculum Development.
- Campbell, Linda, Bruce Campbell, and Dee Dickinson. *Teaching and Learning Through Multiple Intelligences*. Zephyr Press, 1993.
- Faculty Of The New City School. (1994). *Multiple Intelligences: Teaching For Success*. St. Louis, Missouri: Author.
- Gardner, H. (1983). *Frames Of Mind*. New York: Basic Books
- Gardner, H. (1993) *Multiple Intelligences: The Theory In Practice*, New York: Basic Books.
- Gardner, H. (2003). *Multiple Intelligences After Twenty Year*.
- Haggerty, B. (1995). *Nurturing Intelligences: A Guide To Multiple Intelligences Theory And Teaching*. California: Innovative Learning Publications.
- Korff Wilkens, D. (1996). *Multiple Intelligence Activities*. Huntington Beach, CA: Teacher Created Materials, Inc.
- Nicholson-Nelson, K. (1998). *Developing Student's Multiple Intelligences*. New York, New York: Scholastic Professional Books
- Thornburg, David. *The Role of Technology in Teaching to the Whole Child: Multiple Intelligences in the Classroom*. Starsong Publications, 1989.

Appendix A



## Appendix B

Dear Parents,

During the month of May, I will be working on an action research project on the Multiple Intelligence Learning Theory. This project is part of my work toward my master's degree in education. Among the many things we are learning and reinforcing in our classroom this year is the idea that we are intelligent. We will be exploring the many different ways in which we are smart, based on a theory by Howard Gardner. In this theory of multiple intelligences, Gardner says that we are all smart in at least eight different ways. We are smart with words, numbers, pictures, music, our bodies, nature, our friends, and with ourselves. We are all smart in all eight areas. Some of us might be more developed in some intelligence areas, and others will be more developed in other areas. The great news is that we can all cultivate all eight of our intelligences and increase the possibility for classroom success. Here is a brief description of the eight intelligences:

1. Word Smart – reading and writing, telling stories, word games
2. Math Smart – numbers and reasoning, experiments, calculating
3. Space Smart - pictures and images, building, drawing, designing
4. Music Smart – tone, rhythm, pitch, singing, humming, whistling
5. Body Smart – dancing, running, jumping, well coordinated
6. Nature Smart – categorizing the world, farming, hiking, gardening
7. People Smart – leader, sensitive to others, work in groups
8. Self Smart – self knowledge, set goals, working alone

We will be doing many exciting things with these different ways of being smart. If you would like to find out more about this, please feel free to contact me or come visit our classroom. I have enclosed a questionnaire, which I am hoping that you will fill out and return to school with your child. This survey will help me to understand better how YOU see your child and the best learning practices for him/her. Please know that any information you share will be kept confidential. I'd appreciate any surveys returned by May 7, 2004. Thank you for your time and sharing of this information. I will continue to help you child learn in the best way they can!

Sincerely,

Michelle Spitzack

Appendix C

Parent Questionnaire  
For  
Multiple Intelligences

Child \_\_\_\_\_  
Parent \_\_\_\_\_

Please return by 5/7/04

1. What do you feel is your child's favorite part of the Kindergarten day?  

____Calendar	____Stations	____Music
____Journaling	____Gym	____Art
____Computer	____Math	____Reading
____Free Choice		
2. What are your child's hobbies and interest outside of school?
3. Check all of the things your child is good at:  

____Reading
____Writing
____Speaking in front of others or in small groups
____Art (drawing, painting, sculpting, etc.)
____Music (singing, listening to music, playing an instrument, etc.)
____Math
____Movement Activities (dancing, acting, playing sports, etc.)
____Working alone
____Working with others in groups and teams
____Building activities
4. List other areas in which your child excels not on the list above:
5. What is your child's favorite way to learn about things? For example, reading, talking to others, acting things out, hands-on-activities, studying alone, etc.
6. Rank your child in the following intelligences. Use a 1-10 scale (10 being strong). Please refer to newsletter for description of intelligences.  

Word Smart ____	Math Smart ____	Space Smart ____
Music Smart ____	Body Smart ____	Nature Smart ____
People Smart ____	Self Smart ____	

7. What skill, activity, or subject would you like to see your child improve in most?
8. What skill, activity, or school subject do you feel your child has improved in?
9. What do you feel your child would like to learn more about?
10. What improvements or changes would be made to make learning more interesting and meaningful for your child?
11. What is one of your best memories of your child's school life?
12. What careers do you feel may interest your child in the future?

Appendix D

Student Questionnaire  
For Multiple Intelligences

Student \_\_\_\_\_ Date \_\_\_\_\_

1. What is your favorite part of our Kindergarten day?

\_\_\_\_Calendar      \_\_\_\_Stations      \_\_\_\_Music  
\_\_\_\_Journaling      \_\_\_\_Gym      \_\_\_\_Art  
\_\_\_\_Computer      \_\_\_\_Math      \_\_\_\_Reading  
\_\_\_\_Free Choice

2. What are your hobbies and interests outside of school?

3. Check all the things you are good at:

\_\_\_\_Reading  
\_\_\_\_Writing  
\_\_\_\_Speaking in front of others or in small groups  
\_\_\_\_Art (drawing, painting, sculpting, etc.)  
\_\_\_\_Music (singing, listening to music, playing an instrument)  
\_\_\_\_Math  
\_\_\_\_Movement Activities (dancing, acting, playing sports, etc.)  
\_\_\_\_Working alone  
\_\_\_\_Working with others in groups and teams  
\_\_\_\_Building activities

4. List other things you are good at that are not on the list above:

\*\*The rest of this survey will be given at the end of May when we have completed our Multiple Intelligences Project

5. What is your favorite way to learn about things? For example, reading, talking to others, acting things out, hands-on-activities, studying alone, etc.

6. What do you think you are the best at:

Word Smart \_\_\_\_ Math Smart \_\_\_\_ Space Smart \_\_\_\_  
Music Smart \_\_\_\_ Body Smart \_\_\_\_ Nature Smart \_\_\_\_  
People Smart \_\_\_\_ Self Smart \_\_\_\_

7. What skill, activity, or school subject would you most like to improve in?

8. What skill, activity, or school subject do you feel you have improved in?
9. What improvement or changes could be made to make learning more interesting and meaningful for you?
10. What is one of your best memories of school?
11. What would you like to do when you grow up?

Appendix E

The children each had a folder called their Smart Folder. Inside their folder were these report sheets. After they finished their centers (2 per day) they filled out these evaluation sheets which I used in my tabulation of how the children enjoyed the station and/or how well they accomplished their work.

\_\_\_\_\_’s Report Sheet

Today is May \_\_\_\_\_, 2004.

First I did the \_\_\_\_\_table.

I liked it this much:      1          2          3

Next I did the \_\_\_\_\_table.

I like it this much:      1          2          3



Appendix F

**WEEKLY LESSON PLANS**

WEEK OF \_\_\_\_\_

STATION

ASSIGNMENT

RED

Computer Game – Self Smart

ORANGE

Playdoh/Clay – Space & Number Smart

YELLOW

Flower Pots – Space Smart

PURPLE

“Buy a Word” game–Word & Number Smart

BLUE

“The Big Bug” book- Nature, People, Word Smart

GREEN

“Mother May I?” – L.C. – Word & Space Smart

RABBIT

“What’s That Sound?” game – Music Smart

DOLPHIN

Shape Art – Space and Body Smart

PIG

Star Word “Hopscotch” – Word & Body Smart

FROG

Shape Hunt – Nature Smart

LADYBUG

Mother’s Day Cards – Word & Space Smart

FISH

Number Sheets & Game 0-19 - Number Smart

DOES SPENDING THE NINTH GRADE IN A SMALL, ALTERNATIVE  
EDUCATIONAL SETTING IMPROVE STUDENT PERFORMANCE  
ACADEMICALLY?

by

Molly Elizabeth Thorson

B.S. Boston College, 1995

A capstone submitted to the faculty of the Graduate School of  
Winona State University in partial fulfillment of the requirement for the degree of  
Master of Science  
Department of Education  
December 2004

This capstone entitled:  
Does spending the ninth grade in a small, alternative, educational setting improve student  
performance academically?

Written by Molly Elizabeth Thorson

Has been approved for Winona State Department of Education by

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Lois Kreidermacher, Resource

\_\_\_\_\_  
Dr. Thomas Sherman, Capstone Advisor

\_\_\_\_\_  
Date

The signatories have examined the final copy of the capstone, and we find that both the  
content and the form meet acceptable presentation standards of scholarly work in the  
above-mentioned discipline.

## ACKNOWLEDGEMENTS

I would like to thank my husband, Jon, for encouraging me to continue and finish this degree. Together we sacrificed a considerable amount of personal time for me to work on this Capstone and the portfolio of the growth I chronicled throughout this program. I look forward to spending free time with him again now that I have completed this degree.

In addition, I would like to thank my colleagues at Golden Hill School for working so hard to ensure our students would receive the best education possible in their time with us. My peers, Beth Rojas, John Walbruch, and Tom Brown have devoted their professional and personal time to developing a program that would finally include many individual students who have been left behind in their traditional settings. Lois Kreidermacher, Kathy Glawe, Judy Bell, and Sally Fisher all had direct contact daily with our students and continue to be an invaluable resource for both the teachers and the students in the Bridge program.

Finally, I would like to thank the members of my advisory group for their support, advice and companionship through what has been the arduous task of completing this program. We were able to lean on one another in times of great stress and for those relationships I am truly grateful.

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Thorson, Molly Elizabeth (M.S. Education)

Does Spending the Ninth Grade in a Small, Alternative Educational Setting Improve Student Performance Academically?

Capstone directed by Dr. Thomas Sherman

### ABSTRACT

Throughout two consecutive school years a study was conducted to determine the overall benefit of maintaining a small, alternative setting for ninth grade students in the Rochester public school district. This study accounted for student achievement on the state Basic Standards Test, overall attendance, and general attitude and opinions of school. Although the study population was small, due to the nature of the setting, results were found that point to the common strengths of small schools including increased test scores, decreased absences, a true community feeling, and greater buy into the school culture by students. Comparisons were made between standardized test scores of students enrolled in the alternative setting and those of students enrolled in traditional schools throughout the district and state.

## I. INTRODUCTION

Historically, alternative programs have been developed to fulfill two perceived needs within education. In the 1960's and 1970's the need for alternative programming stemmed from a desire to repair or strengthen an already existing system of public education for all students. More recently, alternative programs have been developed to provide an education to students who have a variety of issues which have made it difficult for them to succeed in a traditional setting. These students are typically referred to as "at-risk" and it is for them that Rochester public schools developed the Bridge program in the fall of 2002.

Students are deemed at-risk for an assortment of reasons ranging from teenage pregnancy to social and school anxiety. The ninth grade can be an incredibly challenging and difficult time for all types of students, for those who fall into the category of at-risk it can be a truly damaging year. The Rochester public school district has had a well-developed path of alternative programs for students from sixth through eighth grade, as well as tenth grade through graduation. Rochester Area Middle School (RAMS) has serviced middle school-aged children for over a decade in an alternative, day school setting. The Rochester night school, which currently enrolls 200 tenth through twelfth grade students, has been a very successful method of working towards graduation for over thirty years.

In the summer of 2002, in response to an increasing need for alternative programming for ninth graders, the Rochester school board approved funds and building space to start a ninth grade program in the Area Learning Center (ALC).

This program was intended to bridge the gap between eighth and tenth grade for alternative students and has been appropriately named the “Bridge” program. Bridge enrolls up to 45 students each year and employs three full-time teachers and one paraprofessional. In its first year the program graduated 31 students, and saw an additional 12 come and go throughout the year. The second year of Bridge saw higher enrollment as information about the program spread throughout the district. Currently, 38 students attend Bridge with more expected to join in the second semester.

Since the inception of the Bridge program, the Rochester public school district has spent considerable time, money, and intellectual resources attempting to solve the common problems of unsuccessful ninth graders. The three large high schools have cooperated to develop a specialized program within each setting aimed towards giving individual ninth graders the attention and resources they need in hopes of retaining them through graduation. The “Link” program is a multi-site movement involving dozens of teachers and upperclassmen volunteers. It is designed to provide a supportive environment for over 1500 ninth grade students across the district.

#### A. Need for the Study

As the second year of the Bridge program draws to a close, it is time to reflect on the educational opportunities provided to students within this alternative, public school setting. In many ways, the Bridge program and the Link program are attempting to work through similar issues. However, Bridge is able to offer its students something the other programs cannot, a small school setting.

This study is designed to gather and interpret data delineating the overall affects this small school setting has on its students in the time they spend enrolled in the program.

#### B. Statement of the Problem

It is clear that school districts need to be progressive with the ideas and measures taken to support ninth graders. The Bridge program was developed for the sole purpose of additional encouragement for freshmen, which enables the program to be a lab to test new thoughts and ideas of how best to address the district-wide problem. However, Bridge is in a unique situation in that it is able to offer its students the small school setting that simply cannot be found in large high schools. This may be the key to the program's success. This study is designed with the goal of deciphering the ways in which enrollment in the Bridge program's alternative setting for ninth grade has impacted students' overall academic position.

#### C. Purpose of the Study

The purpose of this study is to prove the viability of a small, alternative program for ninth grade students within the Rochester Public School District through collection and analysis of data pertaining to Bridge students' overall academic performance in such a setting.

#### D. Statement of Hypothesis

Bridge program students will score higher on the Minnesota Basic Standards Test than other Minnesota students taking the test for the second time.

### E. Definition of Terms

- ◆ The Bridge Program: An alternative program for ninth graders in Rochester, Minnesota and the surrounding areas. The first school year for the program began in the fall of 2002.
- ◆ At-Risk: Otherwise, educationally disadvantaged. A student is considered at-risk if they have been exposed to inadequate or inappropriate educational experiences in the family, school, or community.
- ◆ BST: Minnesota Basic Standards Test. A standardized test administered to eighth grade students to test overall reading and math skills. All students in the state of Minnesota must pass this test before being allowed to graduate from high school. This test may be taken as many times as necessary and is offered twice yearly.
- ◆ Small School Setting: Across the nation, a maximum of 300 students enrolled has become the common limit under which schools are considered “small”.

### F. Independent Variables

The at-risk population which the Bridge program services naturally includes individuals whom have varied personal and educational backgrounds. Ages of the students ranged from 14-17, although all were deemed ninth graders by virtue of their attained high school credits upon entering the alternative

program. There are many independent variables to consider which include reasons for participation in the program, whether or not a particular student chose to join the school, educational background, psychological background, history of attendance in previous settings, and discipline record.

Each student served by the Bridge program in its first two years, came to the school for a different reason. Due to the length of the study (two complete school years) a number of students displayed a level of transience and were therefore not included. Each year students came to the program as late as days before the BST exam and were not included in either attendance or BST records because they did not have the small school experience to influence their scores on the tests or their days attending school.

#### F. Dependent Variables

The dependent variables used in this study were firstly, participation in the small, alternative program. These students were removed from a larger, traditional setting for either an entire school year, or some portion of a school year for various reasons. All students had the opportunity to participate in the community on various levels somewhat based on their time in the program.

#### H. Control Variables

There were several control variables. Each student allowed in the program had to qualify as being “at-risk” in accordance with that very specific set of qualifications. Although each student had a different experience in the program, all were exposed to the small setting on a daily basis which included a greater sense of community, smaller class sizes, more individual attention, and a possibly

more personal relationship with their teachers and peers. All students were also provided the opportunity to receive twice-weekly tutoring in preparation for the February BST exam.

### I. Moderator Variables

Three teachers each played a key role in the preparation curriculum for the BST. Two teachers were female, one was male. Each classroom teacher had their personal strategies, techniques, and expectations that were not controlled for purposes of this study. Also, in its first year Bridge enrolled only 21 students in preparation for the test, that number jumped to 34 in its' second with the same number of instructors. The student to teacher ratio rose from 7:1 to almost 12:1 possibly impacting scores. Again, this could not be controlled.

### J. Limitations and Delimitations of the Study

The limitations of this include the small sample size each year, a fluctuating group of students, particularly in the second year, and the poor response in parent surveys. Test scores, attendance rates, and current versus past grade reports offer quantifiable data, however small; attitude scales, survey responses, and interview statements provide opinion-based data. The numerical data can be compared with that of a similar group of ninth grade students chosen randomly from other sites.

## II. REVIEW OF RELATED LITERATURE

Determining exactly how and why the Bridge program has experienced successes in its first two years is very difficult. It is likely that several components of the program have blended in varying extents to contribute to each individual student's specialized education. For example, the curriculum is tailored to alternative students, the schedule is flexible and is designed to meet the needs of Bridge students, and the staff is experienced in teaching at-risk youth. Perhaps the one characteristic of the Bridge program that has lead more to student success than any other, however, is the small school setting offered to its students.

The issues of school size and poor teacher to student ratio continue to be in the forefront as school districts attempt to provide the same high level of education in an atmosphere of frozen or decreased government spending. Throughout the last century, Americans saw their public schools grow in enrollment in response to a general consensus that larger schools would be more efficient and effective. The Conant Report of 1959, as recorded in *Small Schools: Great Strides* (2000), suggested that schools housing 500-2,000 students presumably could offer greater variety in subject matter, would provide teachers with the opportunity to track their students according to ability, and might put less strain on community resources (Wasley & Fine, 2000). Throughout subsequent decades, schools did increase in size with mixed reviews. As predicted, it was immediately apparent that the large, educational institutions were able to offer more diverse classes, various levels of the same subject, and many more



opportunities for extracurricular activities, however, unanticipated consequences also arose.

In the years following the advent of large, public schools, research into the effects of a large setting on students' cognitive and social growth, attendance and graduation, potential for leadership roles, and safety in school uncovered many unintended results of the movement. Yes, there were many financial and academic benefits to housing hundreds, if not thousands, of students in one large building, but it soon became apparent that for at least certain groups of kids, large schools were not beneficial. Data suggests that less-advantaged students end up in the largest classes, with the least-experienced teachers and the least-engaging curriculum and instructional strategies (Oakes, 1987; Wheelock, 1992). Students in low socioeconomic status groups generally need more academic and social support and have been offered less in these large settings. It was also found that although there were more extracurricular options, fewer students were actually able to participate because of increased competition. Participation in these added school activities is widely known to lead to a 'buy in' by students, their families, and communities. This buy in to school on an extra-curricular level is often the impetus to a further increase student participation academically and socially, as well.

Additional research into the structure of large schools suggests that they are organized more for purposes of maintaining control than for promoting learning (McNeil, 1988). Large schools often experience more discipline problems, perhaps as a result of an increased feeling of anonymity on the part of

students and a decreased feeling of ownership or responsibility. Disciplinary issues require a high level of administrative control which can include staff members who handle only discipline matters, consequences to actions that might include placement in special programs, after school detention, or possible expulsion requiring out-of-school tutoring. Not only do these measures for maintaining control take away from valuable staff time and resources that would be better spent promoting academics, they can also be quite costly to school districts.

In the face of these common issues, there is no question as to why many educators, parents, students, communities, politicians, and researchers have recently amplified their call for large school reform. Their concerns have led to a rejuvenated small school movement, applying their concentration and effort to every level of education. Generally, the definition of enrollment numbers that constitute a “small school” has been set at a maximum of 300 students (Barker & Gump, 1986). It is felt that at this enrollment students maximize all potential benefits of a small school both academically and socially, while still maintaining a high level of academic rigor and diversity in class options.

The positive effects of small school size on attitudes and satisfaction, extracurricular participation, attachment to school, and attendance have been confirmed by decades of research findings (Fowler, 1992). Compiled, this data clearly outlines academic, social, attendance and graduation, safety and discipline, and financial benefits of small schools for students, teachers, families, and communities.

Academically, test scores of students in small schools are consistently higher than those in larger schools (Jacobson, 2001). Smaller class sizes and smaller schools allow teachers greater flexibility in curriculum planning enabling them to fully encompass the strategies of individualized lessons, small-group work, and whole class learning. Because teachers may only see 50-60 students in one day, as opposed to well over 100 in many large schools, they are better able to track each student's abilities, progress, performance, strengths, and weaknesses. This increased attention paid to the individual can, in turn, result in a higher level of accountability and responsibility on the part of the student.

Socially, small-school settings have been shown to enhance students' self-perceptions (McPartland & Jordan, 2001). These students then go on to feel more a part of the school community creating a more caring, open, and accepting environment. Teachers also contribute to this close community because they have potentially more individual contact with each student and are able to truly form a relationship with them and gain a more complete understanding of what is going on in their lives. This caring, close environment draws in families and the public as a true neighborhood community is developed. Also, student involvement in extracurricular activities is increased because of less competition. This allows a greater number of students to expand their leadership skills as they contribute to the overall positive and active atmosphere within the school.

In terms of graduation and attendance, small schools generally enjoy higher graduation and attendance rates than schools with greater enrolled numbers of students. Nationally, the average dropout rate for high schools with more than

1,000 students is 6.39 percent, whereas schools with fewer than 200 students have an average dropout rate of 3.47 percent (McComb, 2000). Research also points to higher rates of daily attendance in small schools as compared with rates of larger schools (Gewertz, 2001). It has yet to be determined exactly how small schools are able to accomplish these impressive statistics, however, it is commonly believed that decreased drop out rates, increased graduation rates, and increased daily attendance is due in part to teachers' ability to stay abreast of each student's standing in their class. This recognition then holds every student more accountable.

Lastly, the safety and discipline benefits of small schools and the financial benefits of small schools have also been more clearly outlined as a result of recent research. Small schools generally have fewer discipline problems than larger schools. The strong parental support and adult connections often present in small schools create a safer environment for students (McComb). This not only contributes to the safe and welcoming environment present in many small schools, it also cuts down on administrative time and energy being spent on disciplinary issues. Studies have shown that larger schools spend more per student as administrative costs grow with larger student bodies (Lawton, 1999). Finally, a study in New York in 1998 found that small schools were more cost effective because more of their students graduated on time (Gewertz).

It is the intent of this research into the Rochester public school district's Bridge program for ninth graders to more fully understand the successes and

weaknesses of this alternative setting, while also clarifying the extent to which its successes can be attributed to its innate design as a small school.

### III. METHODS AND PROCEDURES

#### A. Overview

These research methods and procedures were designed with the intent of further understanding the affect enrollment in the ninth grade alternative Bridge program has on its students' academic position. A variety of data collection techniques are utilized to gather both quantitative and qualitative information outlining these affects, in hopes that the conclusions drawn from this study will help to clarify what role the program plays in the larger school district and in the lives of its students.

#### B. Research Design

The methods and procedures of this research study are in place to gather data on the students who comprised the first and second year of the Bridge program. The first year students attended throughout the 2002-2003 school year, the second group attended the following year. Numerical data has been collected on each student's academic and attendance history dating from middle school. Due to the objective nature of the traditional 'A' through 'F' grading scale, the eighth grade Basic Standards Test results have been used as an academic indicator in order to alleviate any bias between middle school and high school grades. Attendance rates are simply the number of days a particular student has been absent in each consecutive school year. To allow for comparison, student data has also been gathered on each individual's academic and attendance records while enrolled in the Bridge program. In addition, an attitude scale was

completed by each student at the end of their year in the program, and a similar survey was sent home to their parents or guardians via the U.S. Postal Service. A color-coded system was put in place to help maintain organization, along with a chart used to indicate completion of each component by each student. See appendixes A, B, and C. Lastly, a personal interview with each student was completed before the end of both school years to further understand the full affect spending the ninth grade school year in an alternative, small school setting had on each individual student. See appendix D.

### C. Selection of Subjects

Every student and their parents or guardians were given equal opportunity to participate in this study by their enrollment and completion of the school year in the Bridge program. Students who did not complete the school year in the program were excluded from the study and the overall conclusions drawn as a result of the data collected.

### D. Instrumentation

Data was obtained outlining each individual student's history and previous school experience. Statewide administration and scoring of the Basic Standards Test includes meticulous development of testing vehicles intended to be entirely non-discriminatory and at grade level for all test subjects. These tests are multiple choice at this level and are Scantron scored. Raw and percentage based scores were considered for each student in the Bridge program as well as the district and state. Attendance records are kept by a computer-based system, Sassy, in the Rochester Public School district. From middle school through high school

attendance is tabulated on a “average period attendance” basis. The attitude scales were developed and implemented to both sets of students and include a standard 1-5 rating scale of agreement with certain statements. The interviews conducted with many of the students were based on teacher to student interactions and the student answers to specific questions regarding his or her experience in the Bridge program.

#### E. Validity Measures

An instrument is said to be valid when it measures what it is supposed to measure. Data collection instruments are, in turn, measured by how valid they are, not whether or not they are valid at all. Attendance records are innately the most valid sources of data used in this study. There is little error in simply recording whether or not a student was present in school on a particular day. Results of the Basic Standards Test given in the eighth grade are arguably slightly less valid due to the widely accepted fact that standardized test results in many cases have little correlation with actual academic intelligence and achievement. Grade and discipline records were also analyzed, however, they were not directly scrutinized as part of drawing conclusions from this study because they are typically slightly less valid due to their objective nature. For example, from one teacher to another, expectations for attaining a certain grade may be quite different. Similarly, what qualifies as very poor behavior requiring disciplinary action to one teacher, may not be viewed the same to another. Opinion and attitude surveys are generally considered the least valid due to the fact that they



are highly objective. An individual might fill out an attitude survey completely differently based on one event or interaction.

Considerations about the validity of data collected through this research have been factored into the overall conclusions of this study.

#### F. Reliability Measures

Reliability is said to be attained when the results of a study or test are consistent when that same study or test is repeated. This experimental design allows for comparison between years one and two of the Bridge program and is open-ended to promote further year-to-year comparison as future ninth graders move through the program.

#### G. Procedures

Statistics on each individual student's grades, attendance, and disciplinary history were gathered using the help of the Rochester public school district's statistical manager, Paul Gustafson. The historical data was then compared with current data collected by the staff at the Golden Hill Education Center, where the Bridge program is housed. Student attitude surveys were given towards the end each school year in their advisory classes. Parental surveys were sent home in the U.S. mail with a self-addressed, stamped envelope to encourage return. Both survey's were designed to be short, easily read and understood, and require very little writing. The individual student interviews were conducted throughout the months of May and June at the end of each school year. Compilation of data occurred in the summer between each school year.

## H. Conclusion

The experimental design utilized in this research project is intended to provide both quantitative and qualitative data. It is the opinion of the researcher that qualitative data must be reflected on in a study such as this in order to fully understand the personal affects the program may have on individual students. The intent is that the variety of data collection techniques used, coupled with the assorted categories of information collected, will paint a comprehensive picture of the affects of the Bridge program and the small school setting provided within it.

## IV. RESULTS AND DISCUSSION

### A. Introduction

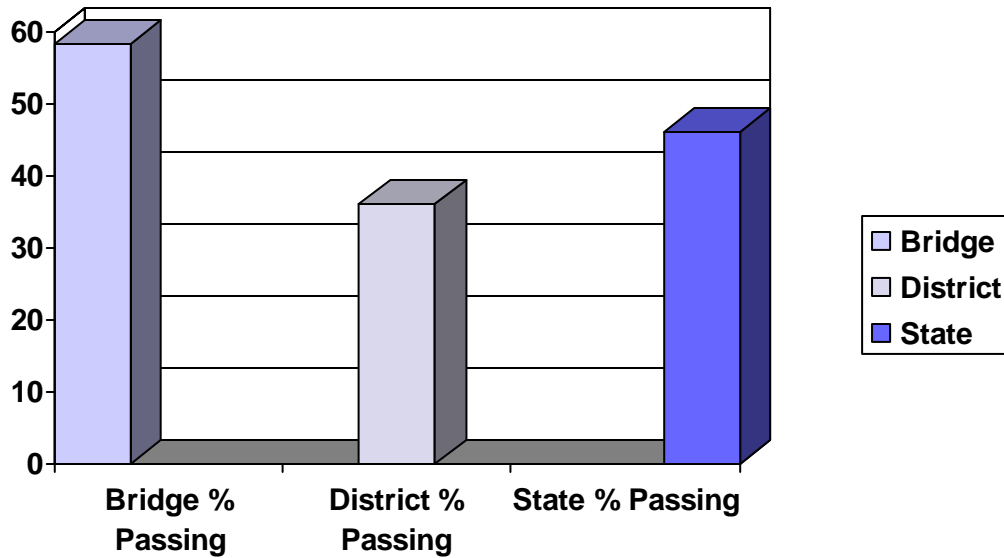
The conclusions of this study have been drawn based on data collected from two sets of students enrolled in the Bridge program. These individuals represent the first and second groups to spend their ninth grade year in the alternative school. Comparisons have been made between each group's academic and social history in school and their school experiences up to ninth grade. Conclusions are also based upon comparisons made between each group and similar groups of ninth graders in traditional settings within the Rochester school district. Specifically, data has been gathered to allow for a comparison between BST scores from the first attempt in the eighth grade and the second in the ninth grade, daily attendance rates between the eighth and the ninth grades, and individual attitudes about school after spending a year in the Bridge program. The first group will hereafter be referred to as "'02/'03" and the second "'03/'04".

### B. Procedures and Results

In the school year 2002-2003, the Bridge program enrolled 21 students. The February administration of the BST in reading and math included 11 and 15 Bridge students, respectively. Of the 21 enrolled students at the time of the test, 8 had passed the reading exam as eighth graders and 2 were absent on test day leaving 11 to take the exam. For the math exam two days later, 3 students had passed on their first attempt and 3 were absent on testing day, leaving 15 Bridge students to take the exam.

Table 1 Individual Reading Scores 2003

Student	8 <sup>th</sup> Grade Raw Score	9 <sup>th</sup> Grade Raw Score	Raw Score +/- Percent Change
1	580	720	+17.5%
2	560	720	+20.0%
3	N/A	640	N/A
4	260	160*	-7.5%
5	N/A	780	N/A
6	480	620	+17.5%
7	N/A	780	N/A
8	480	460*	-2.5%
9	380	580	+25.0%
10	360	400	+5.0%
11	480	760	+35.0%

Figure 1 Local and State Comparisons Reading 2003

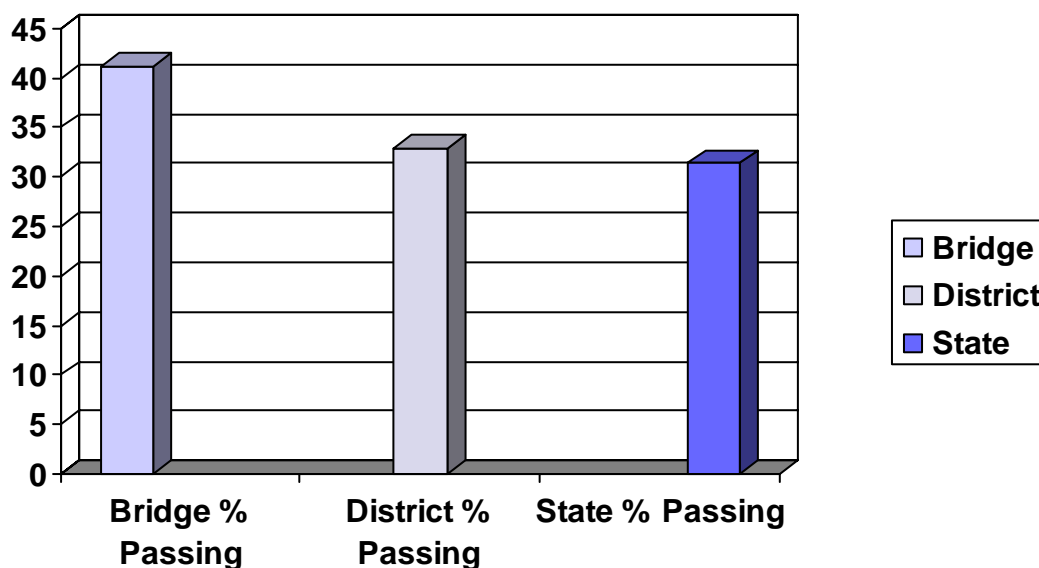
The above table and figure show the reading scores for the 02/03 Bridge student group. In the program's first year, students taking the BST reading exam scored an average of 20% higher on the test. Nine of the 11 students tested, or 82%, improved their scores, while two other students' scores were lower. The

average regression in score was by 5.0%. Seven of the 11 students passed the BST reading exam as ninth grade Bridge students, equating to a 58.3% passing rate. In the comparison between scores of the Bridge ninth graders taking the test for the second time, other local Rochester ninth graders taking the exam, as well as all the other ninth graders in the state, Figure 1 shows that 58.3% of the Bridge students passed with an average raw score of 608.6, while only 36.2% of local students and 46.2% of students across the state passed with average raw scores of 585.5 and 595.3, respectively.

Table 2 Individual Math Scores 2003

Student	8 <sup>th</sup> Grade Raw Score	9 <sup>th</sup> Grade Raw Score	Raw Score +/- Percent Change
1	388	528	+17.5%
2	448	648	+24.0%
3	448	576	+16.0%
4	564	612	+6.0%
5	376	540	+20.5%
6	248	328	+10.0%
7	552	680	+16.0%
8	552	704	+19.0%
9	528	588	+7.5%
10	N/A	752	N/A
11	484	576	+11.5%
12	340	376	+4.5%
13	468	528	+7.5%
14	432	504	+9.0%
15	588	540	-6.0%

Figure 2 Local and State Comparisons Math 2003



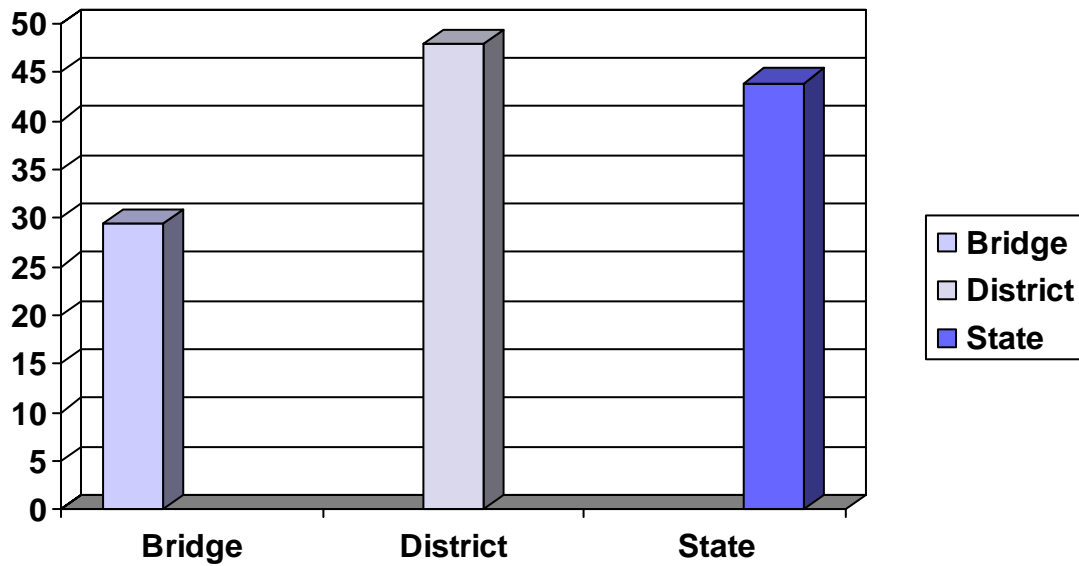
The above table and Figure show the results of the math portion of the BST exam as taken by Bridge students in their eighth and again in their ninth grade year. Of the fifteen students who took the exam as ninth graders, 14 improved their score from their first attempt by an average of 12.5%. One student's score decreased by 5.9%. Five of the 15 students tested passed the exam resulting in a 33.3% passing rate amongst students in the Bridge program. A comparison made between the passing rates exhibited by the Bridge students, other local ninth graders, and students from around the state taking the exam as ninth graders, showed the Bridge program again having the best results. In 2003, the Bridge program's passing rate of 41.2% with an average raw score of 591.5, the passing rate of other local ninth grade students was 32.9% with an average raw score of 580.2, and that of the state was 31.4% with an average raw score of 582.8.

Slightly different results were surmised from the second group of students passing through the Bridge program. The group attending ninth grade in the alternative setting in the school year 03/04, did not fair as well as their predecessors. In 03/04, the program enrolled 34 students. This year, 16 students took the reading exam and 26 took the math. Seventeen of the students passed the reading as eighth graders, whereas only five students passed the math portion of the exam the first attempt. One student was sick on the day of the reading exam and two were out ill for the math exam.

Table 3 Individual Reading Scores 2004

Student	8 <sup>th</sup> Grade Raw Score	9 <sup>th</sup> Grade Raw Score	Raw Score +/- Percent Change
1	547	575	+5.0%
2	567	580	+2.5%
3	525	575	+9.5%
4	563	600	+6.0%
5	551	575	+4.5%
6	567	625	+10.0%
7	555	580	+4.5%
8	525	605	+15.0%
9	547	575	+5.0%
10	571	605	+6.0%
11	594	670	+13.0%
12	538	528*	-2.0%
13	571	580	+1.5%
14	590	594	+0.5%
15	571	594	+4.0%
16	N/A	558	N/A

Figure 3 Local and State Comparisons Reading 2004



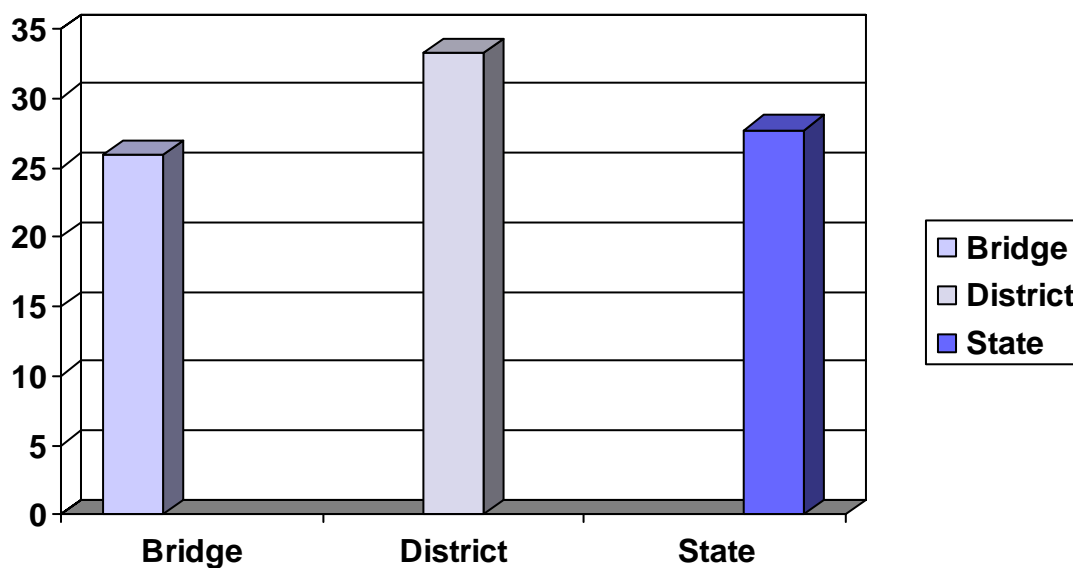
The table above depicts reading scores. This attempt 88% of Bridge students increased their scores from 8<sup>th</sup> grade. The average improvement was by 6.3%. One student's score decreased by 1.8%. Five of the 16 students passed the BST reading exam as ninth graders equally a passing rate of 31.25%. In the comparison figure, it is apparent that the students in the Bridge program did not fair as well as ninth graders locally and statewide. Only 29.4% of Bridge students passed compared with 47.9% locally and 43.9% in the state.



Table 4 Individual Math Scores 2004

Student	8 <sup>th</sup> Grade Raw Score	9 <sup>th</sup> Grade Raw Score	Raw Score +/- Percent Change
1	553	570	+3.0
2	469	534	+13.8
3	512	515	+0.5
4	562	570	+1.4
5	521	528	+1.3
6	556	546	-1.8
7	593	601	+3.1
8	562	608	+8.2
9	591	608	+2.9
10	524	537	+2.4
11	559	558	+/-0
12	562	580	+3.2
13	539	552	+2.4
14	N/A	561	N/A
15	556	531	-3.4
16	590	570	-3.4
17	530	605	+14.2
18	596	608	+2.0
19	577	590	+2.3
20	518	518	+/-0
21	539	489	-9.2
22	542	546	+0.7
23	556	558	+0.3
24	556	597	+7.3
25	583	608	+4.2
26	583	574	-1.5

Figure 4 Local and State Comparisons Math 2004



As displayed in Table 4 and Figure 4, only 6 Bridge students passed the math portion of the BST in the winter of 2004, out of 26 students this equates to a passing rate of 23.1%. Nineteen students improved their scores, however, by an average of 4.1% over their first attempt. Five students' scores regressed from eighth to ninth grade by an averaged of 2.8%. In local and state comparisons, again the student scores in the Bridge program did not measure up. Locally, the passing rate on the math test was 33.2% amongst ninth graders. Statewide the passing rate was 27.7%.

The next set of data compiled for this analysis was gathered from attendance records of students enrolled in the Bridge program in order to conduct an study of change in habits and routines relating to school attendance. Attendance records from each individual student's previous year were compared

with his or her attendance while enrolled in the Bridge program. In the Rochester Public Schools, a student's attendance is collected as "average period absences". For purposes of this research, any student who was enrolled in a small school setting such as the alternative middle school program, RAMS, or private school in the year previous to the Bridge program were not included in this portion of the data analysis due to the fact that those settings fall into the category of "small school".

Table 5 Individual Absences 2002-2003

Student	Ave. Period Abs. 01-02	Ave. Period Abs. 02-03
1	24.6	7.4
2	16.7	2.2
3	18.3	11.2
4	23.1	17.8
5	28.7	17.5
6	35.1	21.7
7	10.0	7.3
8	11.9	3.3
9	47.4	26.6
10	18.9	2.6
11	23.3	4.5
12	15.1	13.1
13	19.6	14.2

The above table represents the average period absences of 02/03 Bridge students in the year previous to attending the Bridge program as well as the year he or she was enrolled in the program. The data set contains information on 13 students all of whom made improvements in their attendance during their year in the alternative school. The average decrease in period absences was by 11.0 and

the overall best improvement made by an individual was a decrease in average period absences of 28.0.

Table 6 Individual Absences 2003-2004

Student	Ave. Period Abs. 02-03	Ave. Period Abs. 03-04
1	25.7	42.7
2	13.6	11.0
3	16.1	57.8
4	10.0	11.8
5	12.1	9.7
6	13.6	12.0
7	4.7	13.0
8	19.1	23.5
9	28.0	15.5
10	26.7	10.7
11	21.8	26.7
12	13.6	15.5
13	11.1	15.2
14	10.8	18.7
15	35.9	10.0
16	26.8	19.0
17	10.8	6.5
18	14.3	14.6
19	33.0	29.7

This table relates the individual average period absences for the second group of bridge students, 03/04. This data set contains attendance rates on 19 students. Nine students made improvements in their average period attendance during their year in the Bridge program as compared with the previous year. The average decrease in period absences among this group was 8.5, and the greatest improvement was a decrease in absences by 25.9 during the year enrolled in

Bridge. Ten students attendance worsened while in the program. The average period absence increase among this group was by 9.2.

The final set of data collected in attempted discern in what ways the Bridge program has been successful for its students, was an attitude scale administered to students towards the end of the school year. A similar set of attitudinal questions were sent to parents of students enrolled in the first year of the program, however were not sent to the second set of parents.

Students were asked to rate their opinions of 6 questions using a 5 point scale ranging from 1, which described “I strongly disagree”, to 5 describing “I strongly agree”. Due to the very subjective nature of a survey such as this, the data from the two sets of students was evaluated together and is intended to be a somewhat softer measure of the Bridge program’s successes and shortcomings.

Table 7 Individual Responses to the Attitude Scale

1. I have had a positive experience this year at Bridge.	
Ratings	# of Responses
5 = I strongly agree	15
4 = I agree	29
3 = I have no opinion	7
2 = I disagree	0
1 = I strongly disagree	0

2. I was academically challenged this year.	
Ratings	# of Responses
5 = I strongly agree	6
4 = I agree	20
3 = I have no opinion	22
2 = I disagree	0
1 = I strongly disagree	3

3. I felt the Bridge program helped me prepare for 10<sup>th</sup> grade.

Ratings	# of Responses
5 = I strongly agree	11
4 = I agree	23
3 = I have no opinion	13
2 = I disagree	4
1 = I strongly disagree	0

4. The seminars helped prepare me to take the test.

Ratings	# of Responses
5 = I strongly agree	14
4 = I agree	11
3 = I have no opinion	22
2 = I disagree	0
1 = I strongly disagree	4

5. The small school setting helped me to be more successful this year.

Ratings	# of Responses
5 = I strongly agree	29
4 = I agree	14
3 = I have no opinion	8
2 = I disagree	0
1 = I strongly disagree	0

6. I liked going to school at Bridge.

Ratings	# of Responses
5 = I strongly agree	20
4 = I agree	25
3 = I have no opinion	6
2 = I disagree	0
1 = I strongly disagree	0

Overall student opinions of the ninth grade Bridge program were positive.

The highest results of the survey are found in question number 5 about the positive influence the small setting had on each individual's ninth grade year. Of

the 22 parent surveys sent out, only 7 were returned. They are not included in this analysis because of a lack of feedback.

## B. Discussion

The Rochester public school district is facing a 5 million dollar shortfall for the school year beginning fall of 2005. Flat funding from the state of Minnesota is causing school districts statewide to consider a variety of ways to deal with what, for many of them, is almost an insurmountable loss. It is at times like these that alternative schools, special programs, elective offerings, extra-curricular activities, staffing, and departmental budgets are cut. In light of Rochester's issues, specifically, research such as this can be an invaluable resource for school boards having to make difficult decisions about how to cut substantial amounts of money from their budgets.

Small programs such as the Bridge program can be very expensive for school districts to fund from the outright, but the benefits, both for students and financially for the district itself, can quickly outweigh the cost. Small school settings, whether an entire district adopts a small school model or the environment is limited to some small, isolated programs, have been found to consistently have higher test scores among their students than students in larger schools, generally have better attendance rates, and enjoy a drastically reduced drop out rate nationally. Curbing the rate at which at-risk students drop out provides, quite possibly, the greatest financial rewards to school districts by keeping kids in school.

The relatively small setting which many of the alternative programs in Rochester and around the nation, benefit from are absolutely necessary to help

this group of at-risk learners experience success in school. What needs to be recognized, however, is that all sorts of students can benefit from such communities, as well. Research speaks to increased buy in from students and the formation of true, caring communities within school walls. More students are able to participate in academic and extra-curricular activities because of less competition. This community, and these activities serve to draw in parents and families as well as the surrounding community.

In evaluating the results from the two year study of one such small program, the Bridge program, the overall results are quite positive on all fronts, however, it is interesting to compare data from the first set of students with that of the second. In both BST scores and attendance rates, the first group experienced a much greater improvement. This group had more students go on to pass the BST reading and math on their second attempt and every single student enrolled that year improved his or her attendance from their previous placement. Conversely, such great results eluded the second group and the analysis of why that might be is interesting.

One stark contrast between the two groups is the number of students enrolled. The average enrollment the first year hovered around 22, while that of the second was in the mid to high thirties for much of the year. Those numbers relate to a 50% increase in students and a student to teacher ratio that went from 7:1 to 12:1. Although either of those numbers would be incredibly rare in a larger setting, it is possible that the second group of enrolled students did not experience the same level of individual attention and help.



Secondly, the data collected is limited in that it cannot fully identify the broad types of individuals that are referred to such a program on a yearly basis. It could be concluded that the second group of students was, perhaps, very different from the first in their overall backgrounds, behaviors, and previous experience in school. It would not be surprising if the Bridge program were referred increasingly tougher kids as the years go on and more middle school counselors come to know its strengths and weaknesses.

Although the attitude scales are the least reliable source of data collected in this study, they may shed the greatest light on the original question of exactly how and why the program experiences success. From the first to the second year, despite the academic and attendance differences, the responses on the attitude scales closely resembled one another. What can be concluded is that the students received the same personal benefits from the program in terms of academic support, community involvement and buy in, and positive school experiences to which they credit the small school environment.

## V. SUMMARY AND CONCLUSION

### A. Summary

The results of this study indicate that Bridge students benefited academically, socially, and personally from the small school environment offered through this program. The small class sizes, increased individual attention, curriculum better tailored to at-risk learners, and close, supportive environment can be credited with the growth experienced by so many students.

### B. Conclusion

A great deal of research has been done on small versus large school settings and arguments continue to be made for both. In the current climate of budget shortfalls and flat spending from states, the small school movement will indeed experience increased scrutiny due to the financial incentives for large settings. It is important in this time that small programs gather information and data that support their programming. Also, administrators and staff of small schools should allow for others to see exactly why their successes cannot be replicated in a large setting due to the fact these accomplishments can largely be attributed to the small setting itself.

### C. Recommendations

Opportunities for continued research exist. Not only will the data collected thus far become stronger as the numbers of students each year are added, but also a trend may be established that can more thoroughly outline the Bridge program's continued successes and remaining challenges. Another interesting extension of this study would be to follow Bridge students through the

remainder of their high school careers in order to document and understand any lasting benefits these individuals may experience long after they have left the one hallway with three classrooms that is the Bridge program.

## REFERENCES

- Barker, B.O., Gump, P. (1986). *Big School, Small School: High School Size and Student Behavior*. Stanford, CA: Stanford University Press, 1986.
- Fowler, W. (1992, April). What do we know about school size? What should we know? Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- Gewertz, C. "The Breakup: Suburbs Try Smaller High Schools." *Education Week on the Web* (May 2, 2001): 8 pages. <http://www.edweek.org>
- Jacobson, L. "Research: Sizing Up Smaller Classes." *Education Week*. February 28, 2001.
- McComb, J. "Small Schools." *State of Oregon Issue Brief*. Salem, Oregon: Oregon State Legislature, March 2000. 7 pages. ED 448 525.
- McPartland, J., and Jordan, W. "Restructuring for Reform: The Talent Development Model." *Principal Leadership* 1, 6 (February, 2001): 28-31.
- Oakes, J. (1987). *Improving inner-city schools: Current directions in urban district reform*. Santa Monica, CA: RAND.
- Powell, A.G. (1996). *Lessons from privilege: The American prep school tradition*. Cambridge, MA: Harvard University Press.
- Wasley, P.A., Fine, M., Gladden, M., Holland, N.E., King, S.P., Mosak, E., & Powell, L.C. (2000). *Small Schools: Great Strides*. New York: Bank Street College of Education.
- Wheelock, A. (19992). *Crossing the tracks: How untracking can save America's schools*. New York: The New Press.

## APPENDIX A

*Please circle the number that best describes your opinion.*

- 5 = I strongly agree  
 4 = I agree  
 3 = I have no opinion  
 2 = I disagree  
 1 = I strongly disagree

1. I have had a positive experience this year at Bridge.

5      4      3      2      1

2. I was academically challenged this year.

5      4      3      2      1

3. I feel the Bridge program helped prepare me for 10<sup>th</sup> grade.

5      4      3      2      1

4. The seminars helped prepare me to take the BST.

5      4      3      2      1

6. I liked going to school at Bridge.

5      4      3      2      1

*Please give any further comment in written form.*

1. Do you have any suggestions to make the Bridge program better for next year's class?

2. What skills did you learn this year that you think will make you more successful next year?

## APPENDIX B

*Please circle the number that best describes your opinion.*

- 5 = I strongly agree  
 4 = I agree  
 3 = I have no opinion  
 2 = I disagree  
 1 = I strongly disagree

1. My student had a positive school experience at Bridge.

5      4      3      2      1

2. My student was academically challenged this year.

5      4      3      2      1

3. The Bridge program helped my student prepare for the transition to 10<sup>th</sup> grade.

5      4      3      2      1

4. There was adequate communication between home and school.

5      4      3      2      1

5. The intensive BST preparation helped prepare my student for the test.

5      4      3      2      1

6. The small school setting helped my student to be more successful this year.

5      4      3      2      1

*Please give any further comments in written form.*

1. In what ways do you feel the Bridge program helped your student this year?

2. Do you have any suggestions to make next year's program better for students and their families?

## APPENDIX C

[illegible]

## APPENDIX D

Student Interviews

Student Name

- 
1. What was your favorite class this year?
  
  
  
  
  
  
  
  
  
  
  2. What was your least favorite class?
  
  
  
  
  
  
  
  
  
  
  3. What was your favorite time this year? (i.e., the beginning, right around winter break, summer school, now, etc.)
  
  
  
  
  
  
  
  
  
  
  4. If there were a tenth grade program would you be interested in attending?
  
  
  
  
  
  
  
  
  
  
  5. Tell me two things about Bridge that were good for you this year.
  
  
  
  
  
  
  
  
  
  
  6. How did Bridge help you to prepare for next year?
  
  
  
  
  
  
  
  
  
  
  7. How can Bridge be improved for next year?



WILL THE TRANSITION TRAINING MANUAL AND TRANSITION TRAINING  
SESSION INCREASE THE SPECIAL EDUCATION TEACHER'S ABILITY TO  
WRITE IEPS THAT MEET CURRENT LAW REQUIREMENTS UNDER

IDEA '97?

by

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B.A. Winona State University, 1990

A capstone submitted to the Faculty of the Graduate School of Winona State

University

In partial fulfillment of the requirement for the degree of

Master of Science

Department of Education

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This capstone entitled:

Will the transition training manual and transition training session increase the special education teacher's ability to write IEPs that meet current law requirements under IDEA '97?

Written by Annie Thompson

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**Date**\_\_\_\_\_

The signatories have examined the final copy of the capstone, and we find that both the content and the form meet acceptable presentation standards of scholarly work in the above-mentioned discipline.

Thompson, Annie, (B.A. Education)

Will the Transition Training Manual and transition training session increase the special education teacher's ability to write IEPs that meet current law requirements under IDEA '97?

Capstone directed by Dr. Tom Sherman

#### Abstract

Not all special education teachers fully understand how to write IEPs that meet the current law under IDEA '97. Many special education teachers lack the specialized skills that are needed to address transition correctly within the IEP. This may result in a school district being out of compliance with the law.

The results of this study did not indicate that the transition manual or the training sessions significantly increased the special education teacher's ability to write IEPs that meet current law requirements according to IDEA '97. However, the study did identify areas in which special education teachers have improved their skills when addressing transition within the IEP and areas in which more training or clarification is needed.

Recommendations include further study, additional training sessions for special education teachers, development of a consistent methodology to address transition within the IEP and parent education with regard to transition.

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## INTRODUCTION

In May 1997 Congress passed, and on June 4, 1997, President William Clinton signed into law the Individuals with Disabilities Education Act Amendments (IDEA, P.L. 105-17). Several new requirements regarding the transition for students from school to adult life were mandated. These mandates have been around for seven years; however, not all special education teachers fully understand how to write Individual Education Plans (IEPs) that meet the requirements of IDEA '97.

### *Need For The Study*

As stated in the Transition Requirements: A Guide for States, Districts, Schools, Universities and Families, studies investigating state and district compliance with IDEA have found that most of the difficulties center on:

- Addressing the required components of statements of needed transition services in student's IEPs.
- Neglecting to invite students as well as representatives from other agencies, who provide support to students, to the IEP meetings.
- Developing a coordinated set of activities designed to promote movement to the student's desired post-school activity and including these activities in the IEP.
- Identifying the student's desired post-school outcomes in the student's IEP.
- Specifying in the IEP the linkages and responsibilities with outside agencies or service needs after the student graduates.
- Indicating on the meeting notice sent to parents that the purpose of the IEP meeting would be consideration of transition services on parent notices.

Special education teachers in the Rochester Public Schools have an awareness of IDEA 1997; however, not all special education teachers fully understand the depth of the law nor do they understand how to fully comply with the law when writing IEPs. The Special Education Director of the Rochester Public Schools reports that past monitoring results have indicated a need to train special education teachers in how, what and where to write transition programming into the IEP. She further explains that, in the Rochester School District, there is not a standard approach to looking at the whole child and what supports will be needed after high school. Teachers seem unaware of beneficial connections that a child and his/her family could make so the child will have appropriate supports. The Rochester Community Transition Interagency Committee (RCTIC) has developed a transition training manual and transition training sessions in an attempt to bestow special education teachers the necessary skills to write IEPs that meet current law requirements under IDEA '97. (Monitoring results for the Rochester School District from May 2004 have not been returned and the training discussed in this study will not appear on monitoring results until 2005.)

#### *Statement Of The Problem*

Will the transition training manual and transition training session increase the special education teacher's ability to write IEPs that meet current law requirements under IDEA '97?



### *Statement Of The Hypotheses*

Teachers who participate in the transition training sessions and use the transition training manual created the by RCTIC will write IEPs that meet current law requirements under IDEA '97.

### *Definition Of Terms*

**Transition:** A change movement from one setting to another. In this study transition refers to the movement of a young adult from school to adult life.

**IDEA 1997:** Individuals with Disabilities Education Act. It is the law that ensures that eligible children with disabilities have available to them a free appropriate public education.

**Rochester Community Transition Interagency Committee (RCTIC):** A committee consisting of school personnel, business representatives, community service providers and parents who convene monthly to discuss and develop tools and strategies to help students transition from school to adult life.

### **Statement of Transition Service Needs and the Statement of Needed**

**Transition Services:** Both are statements included in the IEP that address regulations of IDEA '97.

### *Variables*

#### *Independent variables.*

The independent variables that impacted this study were the quality of the training sessions (i.e. training dates, different conference rooms, number of participants, training content and length of training sessions). The training sessions were held at

the end of the school year. At this time of the school year special education teachers may feel overwhelmed and not as open to new ideas and change.

*Dependent variables.*

The IEP that meets current law requirements under IDEA '97 is the dependent variable in this study. This study focuses only on the Statement of Transition Service Needs and the Statement of Needed Transition Services sections of the IEP when considering compliance with IDEA '97.

*Control variables.*

This study used the same transition manual for all training sessions. The same special education teachers were used to test the hypothesis.

*Moderator variables.*

The moderator variables that impacted this study were the quality of the presenters (i.e. all female, different levels of experience and authority) and number of presenters used. The participants were also paid a stipend and received continuing education units to participate in the training sessions.

*Limitations Of The Study*

One of the limitations to this study was the narrow sampling of special education teachers. The study is just a small picture of the impact the transition manual and training sessions may have had on special education teachers. Approximately 75 special education teachers participated in the training but only six were included in this study. Another limitation of this study was the experience and/or motivation of each special education teacher. Some of the special education teachers are close to retirement; others have recently begun their teaching career. As stated earlier, the

time of the year would limit this study. Some special education teachers feel overwhelmed at the end of a school year and are not able to take the time needed to evaluate their skills and put energy into improving the IEPs they write. Teachers participating in this training at the beginning of the school year may be more open to improving their skills.

## REVIEW OF LITERATURE

The primary purpose of IDEA was to “ensure that all children with disabilities have available to them a free appropriate public education that emphasizes special education and related services designed to meet their unique needs and prepare them for employment and independent living” (IDEA '97 Transition Requirements: A Guide). Providing an education and placing an emphasis on special education and related services was not enough to ensure success of students with disabilities, and in 1997 IDEA was reauthorized. “The focus of IDEA shifted from one that only provided children and youth with disabilities access to education to one that also strives to improve results for all children with disabilities” (2004). Among the results desired was the need for children with disabilities to be prepared for post secondary education, employment and living. Reauthorization brought forth the need to properly transition students with disabilities into the adult world. The tool to do this is the IEP. The legal requirements now include specific IEP content that require the planning team to include the student in the planning process and identify and address the transition needs of student. According to Halpern, 1994,

“Transition refers to a change in status from behaving primarily as a student to assuming emergent adult roles in the community. These roles include employment, participating in post secondary education, maintaining a home, becoming appropriately involved in the community, and experiencing satisfactory personal and social relationships. The process of enhancing transition involves the participation and coordination of school programs, adult agency

services, and natural supports within the community. The foundations for transition should be laid during the elementary and middle school years, guided by the broad concept of career development. Transition planning should begin no later than age 14, and students should be encouraged, to the full extent of their capabilities to assume a maximum amount of responsibility for such planning.” (116)

This definition outlines specific areas to address, identifies whom and states when to begin. The Council for Exceptional Children uses this definition when discussing transition and was referred to when reauthorizing IDEA. IDEA '97, as outlined in IDEA '97: Implications for Secondary Education and Transition Services, requires that the IEP must include:

“For each student with a disability beginning at age 14 (or younger, if determined appropriate by the IEP team), and updated annually, a **statement of the transition service needs** of the student under the applicable components of the student’s IEP that focuses on the student’s courses of study (such as participation in advanced-placement courses or a vocational education program) (34CFR 300.347(b)(1))”.

“The IEP must include...For each student beginning at age of 16 (or younger, if determined appropriate by the IEP team), a **statement of needed transition services** for the student, including, if appropriate, a statement of the interagency responsibilities or any needed linkages (34 CFR 300.347 (b)(2))”.

“As used in this part, transition services means a coordinated set of activities for a student with a disability that-

(1) Is designed within an outcome-oriented process that promotes movement from school to post-school activities, including post-secondary education, vocational training, integrated employment (including supported employment), continuing and adult education adult services, independent living, or community participation.

- (2) Is based on the individual student's needs, taking into account the student's preferences and interests; and
- (3) Includes-
  - (i) Instruction;
  - (ii) Related services;
  - (iii) Community experiences;
  - (iv) The development of employment and other post-school adult living objectives; and
  - (v) If appropriate, the acquisition of daily living skills and functional vocational evaluation (34 CFR 300.29 (a)).

Because of IDEA '97 parents, students, schools and communities should be engaged in thinking about the student's future goals. Supports and services that the student needs for success should be identified. Upon graduation from high school everything should be in place and the student should be prepared for post school education, employment and living.

Note: IDEA is under reauthorization once again. According to the article "Strengthen the Legislative Commitment to Transition Services" the proposed changes to IDEA include:

- A change in the outcome-oriented definition of transition services.
- A proposal to require a **statement of needed transition services** by 14 years of age rather than 16.
- A proposal to require states to develop a system for collecting post school outcome data on student's attainment of post secondary employment and education.
- Full funding of IDEA.

Knowledge of IDEA's transition planning requirements, strategies to implement transition as well as the skills to involve students in the IEP process are critical competencies required by educators and others involved in transition planning. One

of the major challenges in providing transition services is the preparation of qualified personnel (Blalock, 2003). Past research indicates that one of the reasons special education students do not reach their post-school outcomes is in part because “professionals are not adequately prepared to provide the services required to achieve transition-related goals” (Anderson, 2003). It is expected under IDEA that all special education teachers at the secondary level will be responsible for providing transition education and services. However, special educators are not prepared and will never be able to adequately prepare special education students for post secondary education, employment and living if they continue to be ill trained. Authors Morningstar & Clark state,

“It is professionally unacceptable that we live in a society that demands some demonstration of competence through training and/or competency exams of certain workers (e.g., accountant, real estate brokers, hair stylists, plumbers, security guards, general contractor, to name a few), while at that same time permitting professionals who have little or no specific training or demonstrated competence to perform a wide range of tasks and roles in delivering transition education and services to students with disabilities. Currently, two types of school personnel involved with transition education and services include (a) secondary special education teacher engaged in IEP transition planning and/or actual instruction in transition competency areas, and (b) transition education and services coordinators who are expected to ensure “a coordinated set of activities” as specified in the transition requirements of IDEA.” (227)

According to Blalock (2003), “state leaders recognize that most professionals involved in transition planning, facilitation or development obtain their training primarily “on the job” while noting that the effectiveness of innovations depends upon the competence of personnel who implement them”. Special education teachers are assisting students with disabilities in planning their futures. For most individuals in society, moving from the teenage years to adult life is filled with challenges.

Those with disabilities have greater challenges to face, as their disabling conditions (physical handicaps, lower intellectual abilities, limitations of social cognition, etc) make it difficult for them to fit into the mainstream of society. For many of these individuals, school may be the last formal support system to assist them in their lives. These individuals deserve to have teachers who are prepared to help them bridge from school to adult life, setting up both formal and informal supports that can be of help to them in their adult lives. These teachers need to be trained and prepared, with appropriate tools and resources to assist them in their job duties.

The question of how to best prepare personnel has yet to be determined. Morningstar and Clark (2003) outline the following as questions that need to be answered: (a) How effective are current delivery methods? (b) Are some approaches more effective than others? (c) What is the critical mass needed to make infused content effective? (d) What are the college courses into which transition content can and should be infused and how do we ensure consistency of content and implementation and (e) Does specific content instruction make a difference in terms of outcomes for students with disabilities and post school indicators of success? With the absence of individuals advocating for quality personnel prep in transition, making system change will be very difficult.

In “What’s Happening in Personnel Preparation in Transition? A National Survey”, the authors surveyed 320 institutions of higher education (IHE). (At least one university from each state was included in the study.) Responses (70% of department chairpersons) showed that most transition related curriculum is infused into existing courses. The second most frequent content delivery method indicated by



43% of department chairpersons was to devote one or more courses to transition competencies. (Less than 12% reported infusing transition content into one class only and less than 5% said that little if any transition curriculum was addressed in their programs.) Results indicated that instructors reported they were able to devote more time when a course was dedicated to transition competencies as opposed to embedding transition material into broader course topics. There is a fear that content gets washed out if it is included in other courses. Also, college instructors who are less comfortable themselves with transition competencies may not spend adequate time teaching the concept or teach it inaccurately.

State licensure and certification systems constitute one of the most powerful influences in shaping personnel preparation programs and their content (Kleinhammer-Tramill, 2003). In an effort to stimulate development of personnel preparation in transition, the CEC adopted standards in 2001 for preparation of a Transition Specialist. These standards are used within the program approval structure of the National Council for Accreditation of Teacher Education; however, “competencies from the CEC Standards for Preparation of Transition Specialists may impact only IHEs in states that offer a transition specialist credential” (Anderson, 2003). According to Kleinhammer-Tramill (2003) only 12 states have licensure, certification or endorsement options for Transition Specialists, Vocational Special Needs, Vocational Education or Rehabilitation Counselors focusing on special education transition. (MN does not have such licensing.) Kleinhammer-Tramill (2003) found that 70% of states have transition-relevant standards and/or coursework in at least one special education credential area. In spite of this, application of the

requirements across special education credential areas is not uniform. “While some states have transition-relevant requirements for all areas of special education, others require transition content only for some areas. For example, within a given state, teachers of students with mild/moderate disabilities might be required to meet transition-relevant standards, whereas teachers of students with severe disabilities, hearing impairment or vision impairment might have no exposure to transition-relevant content” (Kleinhammer-Tramill, 2003).

Monies do not exist to support personnel preparation activities. The article “The History and Status of OSEP Personnel Preparation Policy for Transition” traces and compares current levels of transition personnel preparation grant activities with those of the last two decades. In 1984 funding was an absolute priority for transition. The monies were intended to alert the field to a new national initiative. In 1990 transition funding became a competitive rather than an absolute priority. There were 31 new Transition Personnel Preparation Grants. The total number of transition-related personnel preparation projects peaked in 1992 at 34. With the reauthorization of IDEA '97, transition was no longer listed as either an absolute, competitive, or invitational priority. The number of new and continuation projects funded each year dropped to the level of 2000, when only 7 new projects and 14 continuation projects focused on transition-related personnel preparation. “Renewed steps to promote public awareness of the need for personnel preparation for transition are in order” (Kleinhammer-Tramill, 2003).



## METHODS AND PROCEDURES

### *Overview*

**Not all high school special education teachers in the Rochester School District #535 have a complete knowledge of and/or adequate training to address transition within an IEP as outlined in IDEA '97. A process to guide special education teachers when addressing transition within the IEP is lacking. The RCTIC has produced a transition manual to assist special education teachers in understanding components of IDEA'97. The transition manual outlines the law and provides a process and resources for special education teachers. The RCTIC also organized a training session to demonstrate the process and support special education teachers.**

### *Research Design*

This study used a pre and post-test format. A rubric was used to evaluate the Statement of Transition Service Needs and the Statement of Needed Transition Services sections of the IEP. An IEP from each subject, prior to training and manual review/use, was evaluated to determine compliance with the above-mentioned components of IDEA '97. The special education teachers then participated in a four-hour transition training session. At the training each special education teacher was given one transition manual developed by the RCTIC and was provided one IEP example that meets law requirements and aligns with the rubric. Two to three IEPs from each special education teacher were evaluated post-training to determine compliance with current law requirements under IDEA '97.

## *Subjects*

Members of the RCTIC offered four transition training sessions between April 2004 and August 2004. RCTIC provided all middle and high school special education teachers within Rochester School District #535 the opportunity to attend one paid four-hour transition training session.

Subjects for the study consisted of traditional high school special education teachers who case manage students with learning disabilities (LD) and emotional behavior disorders (E/BD). These special education teachers voluntarily attended one of the two-paid training sessions offered in April 2004 and had one or two IEPs due in May or June 2004.

## **Instruments/Measuring Devices**

***This study used a rubric to evaluate pre and post-training IEPs written by special education teachers. As stated earlier, the Statement of Transition Service Needs and the Statement of Needed Transition Services sections of the IEP are the components of the law evaluated in this study. The law has been divided into 18 requirements. One point was assigned to each piece of information that was to be included by law within the above-mentioned sections of the IEP. In this study a point value of 18 was assigned to IEPs that meet compliance with IDEA '97.***

## **Validity Measures**

This is a valid study. A special education supervisor and a former due process facilitator from the Rochester School District each evaluated an IEP from the study. Their results were consistent with the results found in the study.

## *Reliability Measures*

This study is not reliable. First, the transition training presentation may vary each time given. The make up of the training participation group would differ each time. Questions asked from participants may cause different issues to be emphasized in each presentation. Secondly, there is no way to control what each transition training participant learned from the training or no way to ensure reliable use of the transition manual by participants. Lastly, at this time there is no way to ensure consistency by special education teachers when writing the IEPs that are being evaluated in the study. One IEP may align with law while the next IEP written by the same teacher may not.

### *Procedures*

Between December 2002 and December 2004 the transition manual was developed by members of the RCTIC committee. In January 2004 the RCTIC committee applied for and in February 2004 received a \$10,000 exemplary grant. The grant provided money to develop and conduct four transition trainings for special education teachers within the Rochester Public Schools.

The volunteer training team consisted of 6 people; two special education case managers, a work coordinator, a district due process facilitator, a special education supervisor and a parent of a special education student. These people designed the transition training focusing on teaching special education teachers how to write the Statement of Transition Service Needs and the Statement of Needed Transition Services. A rubric was designed to evaluate pre and post-training IEPs written by special education teachers. The law was divided into 18 requirements. One point was assigned to each piece of information that was to be included by law within the

above-mentioned sections of the IEP. In this study a point value of 18 was assigned to IEPs that meet compliance with IDEA '97.

Two transition trainings were offered in April 2004; one week after the school district's spring break. Two other transition trainings were offered during the summer of 2004.

During the first week of March 2004 a training flyer was sent by email to all middle and high school special education teachers within the Rochester Public Schools. Participation in any of the four training sessions was on a volunteer basis. The training team set a limit of 25 special education teachers per training session. It was advertised that upon completion of the training, special education teachers received four continuing education units and a \$50 stipend.

Subjects for the study were selected from the fifty special education teachers who participated in the two transition training conducted in April 2004. Subjects consisted of traditional high school special education teachers who case manage students with learning disabilities LD and E/BD and had one or two IEPs due in May or June 2004.

In May 2004 a pre-training IEP from each of the six subjects was reviewed and evaluated. A rubric form was used and a score was given to each IEP. Two post-training IEPs were reviewed and evaluated in July 2004 from each of the six subjects. Again, a rubric form was used and a score was given to each IEP. To obtain the most data possible, post-training IEPs that were written in September 2004 by any of the six subjects were reviewed, evaluated and a score given. Three of the six subjects had data to evaluate from September 2004. Once all of the data was collected it was organized into a table and reviewed.

*Conclusion*

The transition training manual created by the Rochester Community Transition Interagency Committee (RCTIC) and the transition training sessions did not significantly increase the special educator's ability to write IEPs that meet current law requirements under IDEA '97.



## RESULTS AND DISCUSSION

The results of the file review are found in the graph below. Of the six special education teachers involved in the study, three indicate some level of improvement in their ability to address transition within the IEP.

Figure 1

<b>SUBJECT</b>	<b>PRE- TRAINING</b>	<b>POST 1</b>	<b>POST 2</b>	<b>POST 3</b>
LD A	4	5	8	6
LD B	3	11	11	0
LD C	5	14	13	NO DATA
EBD A	0	3	14	NO DATA
EBD B	4	6	7	NO DATA
EBD C	14	16	13	16
<b>TOTAL</b>	<b>18</b>	<b>18</b>	<b>18</b>	<b>18</b>

The purpose in writing IEPs that meet current law requirements according to IDEA '97 is that students will experience success beyond high school. The quality of statements written by the special education teachers in this study suggests a continued lack of understanding of the law and the concept of transition. A Statement of Transition Service Needs was not addressed correctly in any of the IEPs reviewed.

When reviewing the results of this study one must consider the following notes.

LD A – Level of experience may have played a role in the fact that this special education teacher did not show improvement. This special education teacher did not use the format as suggested in the training session. Pre IEP and post 1 IEP is the same student. No significant improvement was shown.

LD B – The post 3 IEP written by this special education teacher was for a student transferring into a traditional high school from an alternative program.

LD C – Results of the IEP review indicate that the manual and training had a positive impact on this special education teacher.

E/BD A – Results of the IEP review indicate that the manual and training had a positive impact on this special education teacher. Written comments by the special education teacher in the pre IEP state that transition is “not needed at this time”. Post IEPs address transition.

E/BD B – Results obtained by IEP review suggest that the manual and training did not improve this special education teacher’s skills in addressing transition within the IEP. This special education teacher did not use the format as suggested in the training. Written information within the post IEPs suggest that this special education teacher is not compliant with the law in other respects.

E/BD C – Pre IEP results indicate that this special education teacher is knowledgeable in addressing transition within the IEP. Results suggest a lack of understanding in how to write the Statement of Transition Service Needs. IEP results suggest that the training may have helped this special education teacher fine tune skills.

## SUMMARY AND CONCLUSION

The results of this study indicate that the transition manual and the training sessions increased 3 of 6 special education teacher's ability to write IEPs that meet current law requirements according to IDEA '97. The study did identify areas in which special education teachers have improved their skills when addressing transition within the IEP and areas in which more training or clarification is needed.

### *Recommendations*

This study used a very small sample size. Approximately 75 special education teachers received a transition manual and participated in the training sessions; only six special education teachers participated in the study. Further investigation into IEP development post training is needed in order to receive more accurate results.

Results from this study demonstrate the need for follow-up training sessions within the Rochester School District. Further understanding of how to develop the Statement of Transition Service Needs is required if special education teachers are to write IEPs that meet current law requirements. Special focus needs to be placed on the resources within the transition manual; teachers need to be shown the value of and how to make use of the included resources. A hands on workshop in which special education teachers participate in discussion, use the manual, review their own IEPs, and rewrite IEP areas is needed.

People in special education leadership positions within the Rochester School District need to come to consensus as to the methodology of how to address transition within the IEP. In order to bring consistency, a system of accountability should also be put into practice.

Finally, parents of special education students must be educated on the transition mandates of IDEA '97. In order to fully participate in the transition of their child, parents need to understand the concept of transition, resources available to them and the process used during IEP meetings to develop an IEP that effectively addresses transition.

## RESOURCES

- Anderson, D., Kleinhammer-Tramill, P. J., Morningstar, M. E., Lehmann, J., Bassett, D., Kohler, P., Blalock, G., and Wehmeyer, M. (2003). What's happening in personnel preparation in transition? a national survey. *Career Development for Exceptional Individuals*, 26(2), 145-159.
- Blalock, G., Kleinhammer-Tramill, P. J., Morningstar, M. E., and Wehmeyer, M. (2003). Introduction the special issue on personnel preparation in transition. *Career Development for Exceptional Individuals*, 26(2), 125-129.
- Blalock, G., Kochhar-Bryant, C. A., Test, D. W., and Kohler, P., White, W, Lehmann, J., Bassett D., and Patton, J. (2003). The need for comprehensive personnel preparation in transition and career development: a position statement of the division on career development and transition. *Career Development for Exceptional Individuals*, 26(2), 207-226.
- Eisenman, L. (2003). Strengthen the legislative commitment to transition services. *Network*, 27(3), 7.
- Kleinhammer-Tramill, P. J., Baker, B. C., Tramill, J. L., and Fiore, T. A. (2003). The history and status of osep personnel preparation policy for transition. *Career Development for Exceptional Individuals*, 26(2), 131-143.
- Kleinhammer-Tramill, P. J., Geiger, W. L., and Morningstar, M. (2003). Policy contexts for transition personnel preparation: an analysis of transition-related credentials, standards, and course requirements in state certification and licensure policies. *Career Development for Exceptional Individuals*, 26(2), 185-206.

National Center on Secondary Education and Transition, (n.d.). IDEA 1997:

implications for secondary education and transition services. retrieved Feb.

24, 2004, from Policy Update Web site:

[http://www.ncset.org/publications/policy/NCSETPolicyUpdate\\_1.1text.asp](http://www.ncset.org/publications/policy/NCSETPolicyUpdate_1.1text.asp).

National Center on Secondary Education and Transition, (n.d.). Frequently asked

questions. retrieved Oct. 16, 2004, from IEP & Transition Planning Web

site: <http://www.ncset.org/topics/ieptransition/faqs.asp?topic=28>

Morningstar, M. E., & Clark, G. M. (2003). The status of personnel preparation for transition education and services: what is the critical content? how can it be offered?. *Career Development for Exceptional Individuals*, 26(2), 227-237.

Wehman, P. (1996). *Life beyond the classroom*. 2nd ed. Baltimore: Paul H Brookes.

Western Regional Resource Center, (n.d.). IDEA '97 transition requirements: a guide.

retrieved Oct. 16, 2004, from Section II: Intent of Transition Services Web

site: <http://interact.uoregon.edu/wrrc/trnfiles/intent.htm>.



